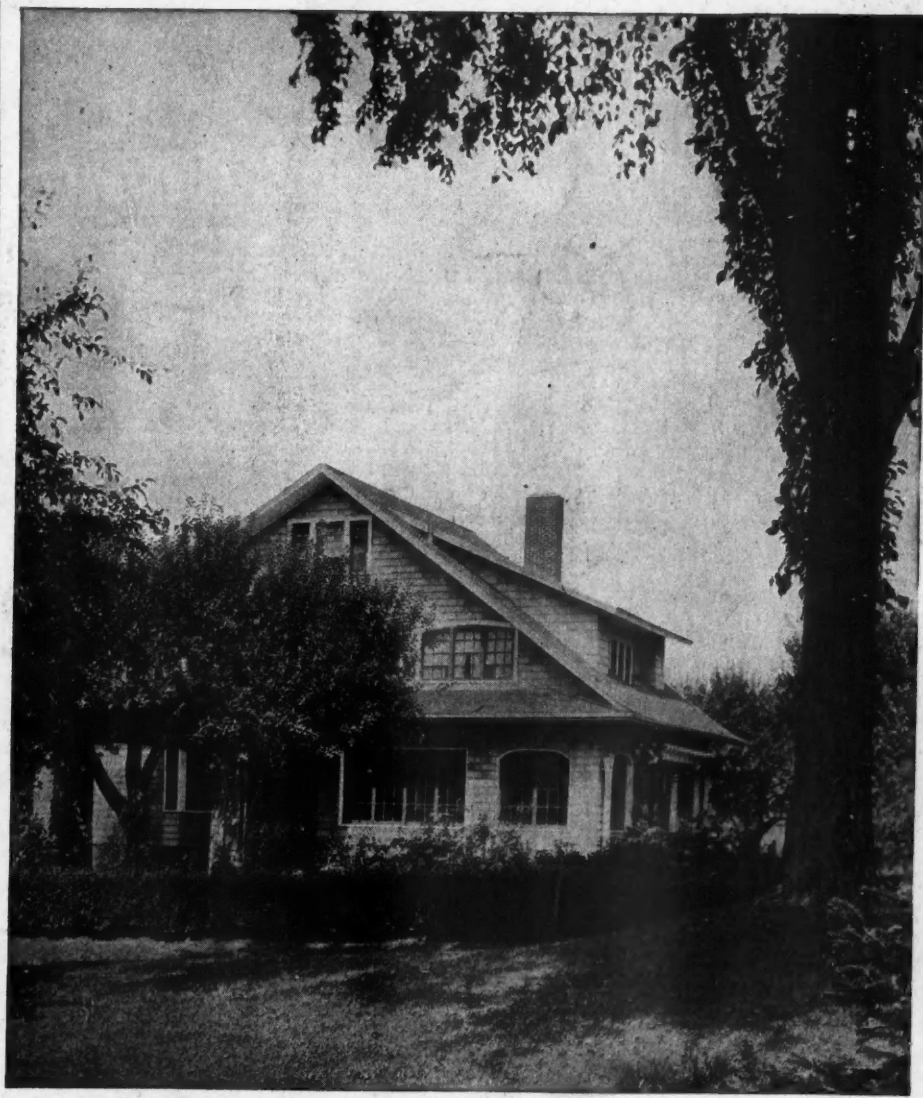


GREEN'S FRUIT GROWER

The Oldest Fruit Journal in America



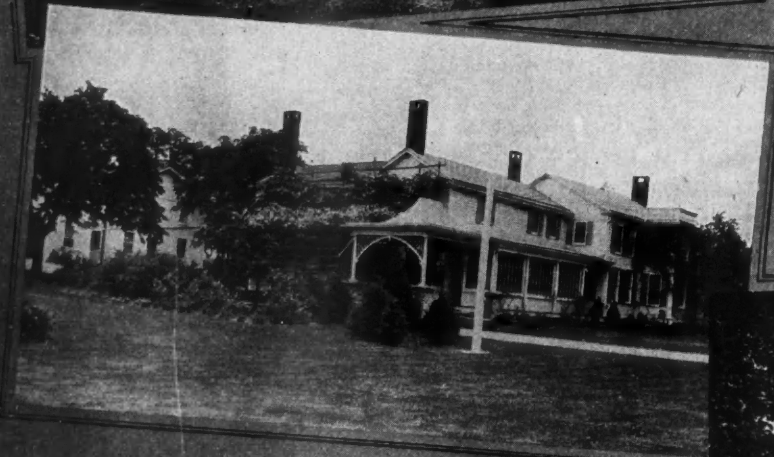
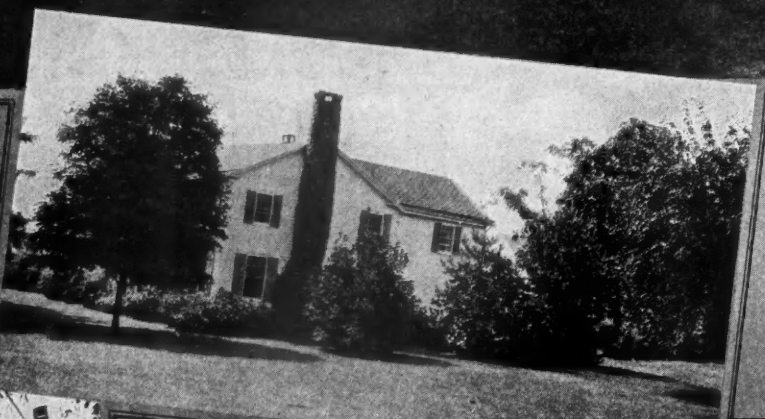
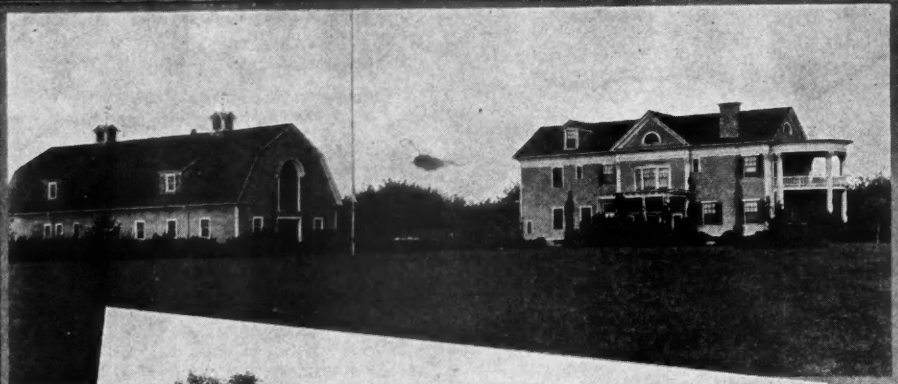
Charles A. Green, Editor

Rochester, N. Y.

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A Few Beautiful Country Homes of Readers of Green's Fruit Grower
See How Proper Planting Adds to Their Beauty

Volume

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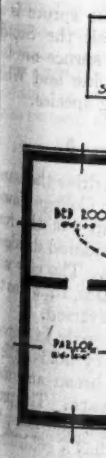
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The Oldest
Fruit Journal
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GREEN'S FRUIT GROWER

Published by
Green's
Fruit Grower
Company

Volume 37

Rochester, N. Y., March, 1917

Number 3

Building and Remodeling the Home

By MILDRED GREEN BURLEIGH

"In the spring a young man's fancy lightly turns to thoughts of love," and just as naturally the thought of the home maker and housewife turns toward the improvement of the home.

The strong impetus of the Back to the Land movement insures not only a scientific understanding of soil and products, but vastly better rural home conditions. Under this impetus, new houses will be built and old ones remodeled. To the fortunate few who are to enjoy the building of a new home, the primary consideration is location. It should be high, dry and with an unobstructed view.

Unfortunately the country at large offers too many examples of homes where this consideration would seem to be utterly ignored. Barns and out-buildings are so situated that they completely shut out a view that would add immeasurably to the outlook of the home life.

In close connection with location and to be studied with it, is the working plan of the house. This should be considered from the standpoint of cost and the needs of the family. Time, money, labor and convenience are sacrificed by haphazard, hit and miss methods, and continuous mistakes are avoided by a carefully arranged plan. In the arrangement of the plan the basis from which to work is economy of space and the saving of steps. This is more difficult in a country house than a city house, because in a limited sense the farm house serves as a store house and market headquarters.

The accompanying plans of a remodeled house are taken from a Cornell Reading Course and were selected because they illustrated so clearly, many of the points to be considered in this article, and it is our aim to make suggestions which will be valuable to those who already have country homes as well as to the prospective builder.

It will be noticed that in the illustration "B" the floor space is liberal but this is of distinct advantage to the fruit grower, as it affords greater cellar capacity. The writer knows an apple grower who so divided his cellar with hollow tile partitions that he has been able to store from eight hundred to one thousand barrels of apples in it at one time, holding them until he could command the top market price.

In comparing plate "A" and "B," it will be seen that the first consideration in plate "B" was the location of a central hallway from which every room would be accessible.

This not only insures privacy, but shortens the distance that must daily be traveled. The kitchen has been moved nearer the center of the house and the distance between kitchen and living rooms shortened from fifteen to twenty feet. This saving in steps computed by weeks and years, would aggregate an immense economy of both time and labor in a life time.

A similar drawing of your own home might suggest possible changes which would save unnecessary steps and add comfort and convenience all out of proportion to the expense involved.

Other advantages to be found in the remodeled drawing are clothes presses, pass pantry, office, bath room, heating, plumbing, lighting and stationary wash tubs. This last item saves much of the heavy lifting on the most dreaded day of the week.

If one cannot add modern plumbing throughout the house, the carrying of water may be simplified by the piping of a spring into the kitchen and if a cistern is not possible, a hoghead outside of the kitchen, or above it, connected by pipes and spigotted to the kitchen sink will, during the non-freezing months, answer as a step saving convenience.

The size of the kitchen should depend upon the demands to be made on it. Now, as in our grandmother's day, kitchens frequently serve as laundry, dining room, living room and general work shop. While this is not desirable the year around, during the winter, meals may be served in the kitchen with comfort, and an inexpensive screen may be used to temporarily hide the stove and work table. If the kitchen is to be used for general work, it will however require more space and more careful planning.

The floors throughout the house will depend largely upon the amount to be expended and the personal taste of the owner, but as yet no better floor covering for the home kitchen has been invented than linoleum. It cleans easily and wears well.

Built-in fixtures throughout the house are desirable but not necessary. In the kitchen, stationary tables and cupboards are convenient and the space beneath tables may be converted into drawers. Many housewives prefer a small table on casters or where the space will permit, a drop leaf table affords extra table room when desired.

The ideal location of the sink is between two windows with drain boards on either side. This is not without its drawback, because of possible freezing of the pipes in severe weather. In plate "B" the sink is placed next to the laundry to save plumbing expense. It is strange but the usual height of sinks is too low for the average woman, and thirty-five inches from the floor would be found to be much more convenient than thirty.

Dishwashing will be greatly facilitated by the use of drain boards on either side of the sink. They should be made of ash or maple, slightly grooved, and so placed that they slant toward the sink. As the boards are continually subjected to water, they should be thick and well cleated on the under side to prevent warping. The best water resisting finish is

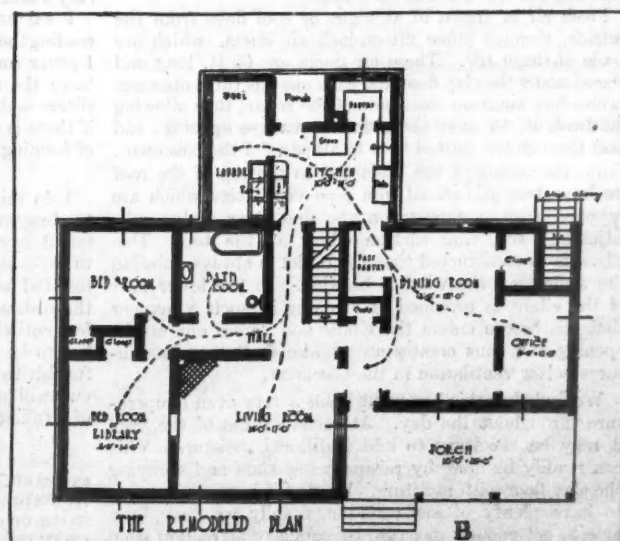
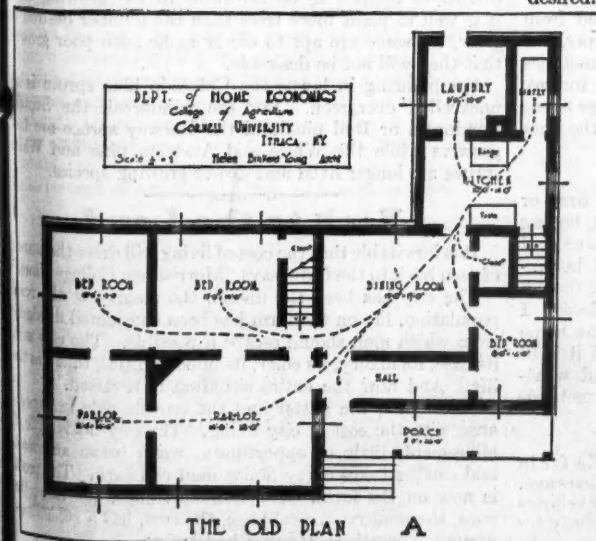
wood filler followed by linseed oil.

The kitchen stove should be conveniently placed near both sink and table. As it requires more care and makes more dirt than any other piece of kitchen furniture, a suggestion as to the care of the ashes will, if carried out, be well worth the necessary trouble and expense involved. The ashes may be emptied into an air tight metal can in the cellar by means of a stove pipe. The ash pan should be removed and a round hole cut through the ash compartment and the floor beneath it. The stove pipe passes through these holes and is flanged over the bottom of the ash pit of the stove. Two precautions are necessary. First, the stove pipe must be fitted with a damper to prevent an upward draft of air. Second, a free air space of two inches must be allowed all around the pipe where it passes through the floor. This space between the floor and the stove pipe may be filled with concrete, or the pipe may be covered with an ordinary metal collar. The ash can in the cellar should be surrounded by a wire netting to prevent inflammable rubbish or combustible material from being thrown against it.

The ice-box may be kept in the laundry, and if desirable may be filled from the outside, thus saving the unavoidable dropping of water on the floors.

The subject of household decoration is indeed a very personal one, and yet a few general suggestions may be helpful. Considering the activity of the usual American, our homes should express as much of restfulness as possible, and if for no other reason than this plain wall papers are most desirable. The walls form the back ground of the room against which the activity of the home life is lived. The atmosphere of both cheer and repose is essential and any colors which will contribute to these attributes are to be desired. Tans and browns are generally conceded to be both restful and cheerful. Greens are also restful, but they absorb a great deal of light and on dark days lack the sunny atmosphere. Blues, particularly the grey blues are delightfully cool and restful in summer, and when relieved by the gay colored chintzes and cretonnes are charming. The new mulberry or prune is warm and combines the requisite qualities of cheer and repose. Some of the indistinct two-toned colors are good for halls and in some cases, may be

(Continued on Page 4)



Successful Home Storage

R. A. SIMPSON in Wisconsin Horticulture

There is a demand and need for the home storage. There is a feeling among practical orchard men that under certain conditions, there is a great need of a good cool storage in the orchard and one of the great questions at present is, "Is it possible to construct a cool storage that will economically keep the fruit in proper condition until the holidays or through February if necessary?"

There are many advantages in the use of a successful cool storage. First, it increases home consumption by giving a longer period in which to dispose of the various varieties without adding additional cost such as packing, freight to cold storage, cold storage charges and commission. This enables the home groceryman to handle your fruit for a much longer period, at a lower price to the consumer. At the same time he is able to pay the grower better prices for his fruit than he could have gotten had they all been sold during picking time. Second, it enables the grower to dispose of a great quantity of his fruit at a good profit which may not be quite good enough to barrel and store. Third, you can supply the farmers during the winter, who, as a rule, never buy cold storage apples. Fourth, it helps to harvest your fruit more economically. Fifth, it enables you when you are shipping, to have your fruit cooled before being loaded. Sixth, you have a market with less competition, as it is after the harvest glut and before the storage apples can be moved at a profit. There are many other advantages which might be mentioned.

The successful home storage so far as keeping the fruit is concerned depends largely upon the location and the construction of the building. It must be well planned, properly constructed and made of proper material. It must have the best insulation and ventilation with proper light and moisture. If possible it should be located on a side hill which slopes to the north where the underground storage is used, though this is not absolutely necessary as the same kind of building could be constructed on level ground or above the ground if necessary.

At Vincennes, Indiana, we have constructed a combination packing house and cool storage, which works very successfully and which we find is very practical. This building is built on the north slope of a clay hill at the edge of our orchard which is located four miles from the city. It is a three story building and is made of hard burnt hollow tile. The tile measures 8-8-12 and has three openings in each, which, when constructed makes three dead air spaces in the walls. We have an elevator running from the basement to the top floor.

The basement, which is our cool storage proper, is all underground except three feet of the north wall which is provided with windows for light and extra ventilation when needed. The walls of this basement are the same as above except that the tiles are burnt a little harder and that between the clay and the outside of the walls we run in four inches of concrete, thus making a stronger wall and better insulation. The ceiling of this basement is thoroughly insulated in the following way:—Shiplap, water-proof paper, eight inches of mill shavings, water-proof paper, shiplap, water-proof paper and then the flooring. The basement floor proper is clay with an open slatted floor eighteen inches above, made of two by six inch timbers laid one-half inch apart.

Fresh air is drawn in at night or cool days from the outside, through three fifteen-inch air ducts, which are made of drain tile. These air ducts are 60 ft. long and placed under the clay floor and each one has three openings twelve feet apart on the inside of the cellar; thus allowing the fresh air to enter the cellar from these openings and pass through the slatted floor to all parts of the basement. From the ceiling of the basement to the top of the roof we have two galvanized iron pipe ventilators which are supplied with a damper on the first floor and a self-adjusting, revolving suction elbow at the top. This elbow is so constructed that the outlet is always pointing the same way the wind is blowing. In the lower part of the elbow is provided an opening in such a manner that the breeze enters the elbow and passes out at the opening and thus creates an additional draft, which insures better ventilation in the basement.

We find that this basement holds a very even temperature throughout the day. At certain times of the year it may be necessary to add additional moisture. This can readily be done by raising a few slats and spraying the clay floor with moisture. We find it is very necessary to have plenty of moisture but usually we have been able to get enough moisture by capillary attraction from

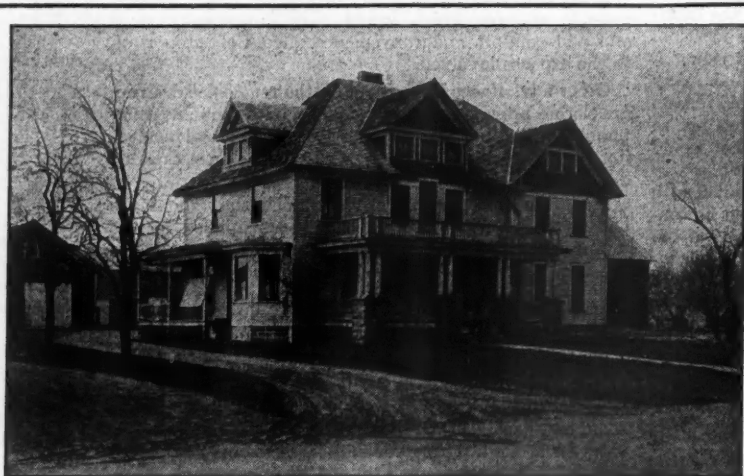
the ground. There are times that it might be very practical to use some ice in this storage.

The fruit should be brought into the packing shed, sorted as to quality, taken to the basement the following morning and stored in slatted crates, open headed barrels or in bulk, so as to receive the best ventilation. We know that in our cellar we can keep good winter apples until the first of March with practically no loss. We can also keep Number 2 apples until the holidays or longer. We can keep Grimes Golden until Christmas. We always open air ducts at night or cool days and shut them when the air outside is warmer than inside.

The two upper stories of this building which are used for packing, are very cool, indeed, and may also be used for storing a few carloads of the very last pickings for a short period.

Buy Your Trees Early

Order your nursery stock in time to set with the first opening of the ground. Especially do this if you want to get the best trees for your young orchard. Nurserymen have limited stocks of many kinds of fruits, and the desired kind may run out after the book orders are filled. Many of the big commercial orchard planters order one-year "whips." Practically none buy trees over two years old. The older or larger trees lose more roots in digging, and it takes a longer time for it to recover after transplanting. One-year trees may be headed exactly where desired while older trees are already headed and must lose their buds if they are cut back to the lower heads. As to the grade or size of the tree, avoid the very large and over-sized ones and also the small sizes. Best results will come from the well developed, stock trees.—F. H. Sweet.



An Attractive Modern Farmhouse

The Farm Paper in the Farm Home

When a farm woman starts to tell of the benefits of the farm paper in her home it may be expected that she will first relate the way it has helped her about the housework or the inspiration she has received from able writers, who have measured fairly the importance of that member of the family who sets the standard of the manners and morals of the home, besides being, at least in a great measure, the guardian of the health of its inmates, says 20th Century Farmer.

I am not unmindful of the advantages derived from reading the home department of any good farm paper, but I never confine myself to this part. Indeed, I sometimes leave the reading of articles intended especially for my sisters and me until I have glanced over every page to see if there is something of particular interest along the lines of farming which we are pursuing.

Reads to the Men

I do this because the men folks are often too tired or too busy to "glean the wheat from the chaff," and, having found any "kernels" of valuable information, I am glad to make it known and frequently read to a small, but interested audience during the resting hour at noon, though the dishes have to wait till the men go to the fields. I feel entirely justified in this practice, because the home has to be built on a good financial foundation if it is to furnish the comforts that most women crave, and whatever will promote a better knowledge of up-to-date methods of farming will in the long run be profitable.

To-day many of our roads carry a motor traffic far in excess of the total traffic of all classes carried 12 years ago. At the present time there are about 2,500,000 motor vehicles in use on our public roads, or about one motor vehicle for every mile of road.

Evergreens Around the Farm Home

By J. S. UNDERWOOD, III.

I cannot understand why so few evergreens are planted around the farm homes of this country. Nothing will improve the appearance of a farm home more than a few evergreens. They not only add beauty to a home but afford protection from the cold winter winds and make a cool shady place in summer time. Around my farm home are several evergreens but the one that adds most beauty to the place is a Scotch Pine near the front door of the dwelling which is forty or more feet in height.

It is not difficult to grow evergreens if the right kind of trees are properly planted and are rightly cared for after being planted. I would never buy seedling trees. The size of the tree is a matter of importance. Many may think that by buying big trees they will get quicker results but this is more often untrue than otherwise. A tree not over two feet in height twice transplanted will recover much more quickly than a tree four feet in height. The small tree is also cheaper in price and easier to handle than the large tree.

Most people do not have as good success in transplanting evergreens as they do other kinds of trees. The reason for this is easily explained. Trees of all kinds are more easily handled in the dormant stage hence one reason why an evergreen is not as easily handled is because it remains green and its life processes are more or less active throughout the year. The sap of the evergreen is also radically different from that of other trees. An apple tree that has become badly dried out and the bark shriveled can be restored if its root and branch are buried in the moist earth for a few days but in the case of the evergreen under the same conditions the resinous fluid in the tree solidifies and once the tree is in this condition no amount of moisture or water will restore it to its normal condition. Then, too, the leaves of the evergreen will present a green and bright appearance, giving no evidence of exposure until two or three months after it has happened, so that one may be planting what is practically a dead tree but his first intimation of that fact comes the following summer.

Evergreens should not be planted while the ground is too wet to work for other farm crops. Care should be taken not to expose the roots of the trees to the air. If one lives near a nursery and can drive there and get the trees when the time arrives for planting, and will pack them in the wagon box using wet straw and blankets to keep the roots covered, and will reset them as soon as he returns home the majority and possibly all the trees will live and grow well. The great majority of trees, however, must be ordered from a distance and received before settled spring weather has arrived.

The box or bundle should not be opened until a hole is dug in the ground and what is called a grouch made, which is a puddle of mud about the consistency of thin mortar. When this is done open the box or bundle and stick the roots into this mud quickly. Then heel them in the same as fruit trees until ready to plant.

After the trees are planted they should be given good cultivation and in July and August when dry weather generally sets in they need watering. This is absolutely necessary or a good percentage will die. Unless weather conditions happen to be favorable to the growing tree it is well to plant more trees than the number desired to grow, for some are apt to die or make such poor growth that they will not be desirable.

For planting in lawns the Colorado blue spruce is an unexcelled evergreen. For the windbreak the Scotch Ponderosa or Bull pine and the Norway spruce are fast growers while the White and Austrian pine and White spruce are longer lived and slower growing species.

Back to the Land

It is inevitable that the cost of living will drive thousands of men back to the farm, says "Morristown College News."

The city has been the dream, the magnet of the rural population, life on the farm has been considered drudgery from which man should escape if possible. The city with its ease, its luxury, its color, its opportunities, that was the life. And now the entire situation is reversed.

The lights, the glitter and the crowds pale in importance with the cost of city living. The city holds little of allurements, little of opportunity, when bread and meat and clothes takes every dollar man can earn. The profit is now on the farm. The humble things, the hogs, the corn, the poultry, the cabbage, the cow, has a golden suggestion, a worth they never had before.

A Desirable Home Fruit Garden

By A NURSERYMAN'S DAUGHTER

The amateur fruit grower and the commercial fruit grower are both essential to the good of the community. Aside from the pleasure of growing and eating fruit, from one's own garden, it may also be considered from the standpoint of economy and profit. The initial cost of trees and plants will not exceed the market price of the fruit consumed in one season. True, you have to wait for the trees to mature but after that the years of bearing will leave the balance tremendously in favor of the garden, to say nothing of the quality and luciousness of the fruit gathered in prime eating condition and transferred carefully to the table.

One who has attempted to pick a perfectly ripened peach and at the slightest touch has had the fruit fall into his hand will never forget its juicy peachy flavor. The same is true of other fruits ripened on the trees, and strawberries, raspberries and blackberries are equally improved if allowed to remain on the plants until they are perfectly ripened. Commercially of course this is impossible because of shipping and the length of time which frequently must elapse between picking and consuming.

The beginning of a fruit garden may be modest or elaborate. It may consist of a row of strawberries, a half dozen current bushes, a cherry, peach or apple tree and a few berry bushes tucked away in some inconspicuous corner. But even the small garden is worth infinitely more than the cost and labor involved.

A fruit garden which supplies the table with a variety and quantity of fruit similar to the supply of vegetables which come from the vegetable garden is not only a great addition to the table supply but a healthful contribution to life. We Americans are a fruit loving, fruit eating people, but we have not begun to realize the possibilities of utilizing small garden space for fruit growing.

No one need to hesitate to start a fruit garden with the facilities for learning the rudiments of fruit growing as accessible as they are today. Study the catalogues of several reliable nurseries, compare varieties, size and price and if after reading their cultural instructions you are not satisfied that you know how, ask questions and they will be glad to answer and make suggestions.

For your encouragement, let me say, that the home fruit garden has always been the forerunner of commercial fruit developments. The success of the great fruit interests in the United States, has grown out of the persevering, enthusiastic amateurs whose fruit gardens have been the propagating grounds from which many of the fruits of highest quality and greatest value have originated.

Spring is nature's planting time and all of the fruits of the garden may be planted as soon as the ground is in good working condition.

If you are limited by lack of space, plants of a type that bear heavily in proportion to their size or dwarf trees which are adapted to the cultivated art will be most profitable. This suggests intensive cultivation and liberal feeding. In ordinary cases barnyard manure will enrich the soil sufficiently. Individual tastes will greatly modify the character of any particular garden but a few general suggestions as to layout and varieties may be helpful. Grapes on a trellis near building or on an arbor bear abundantly and not only save space but add immeasurably to the charm of the garden or yard. They may also be used effectively to screen an unsightly view.

Combinations of vegetables and small fruits make a very attractive garden. The low fruits may be planted along the walks and the currants and berries used as a hedge or along the fence line. Trees must be planted where they will not shade valuable garden space.

The following lists will serve as a guide to the beginner and may be relied upon to produce a delicious succession of table fruits.

For a Small Garden 40 x 50 Feet

- 1 Dwarf McIntosh Apple
- 1 Yellow Transparent Apple.

- 1 Carman Peach.
- 1 Early Crawford Peach.

- 1 Dwarf Bartlett Pear.

Country Garden consisting of one-eighth of an acre or larger

- 1 Dwarf Duchess Apple.
- 1 Dwarf McIntosh Apple.
- 1 Dwarf Wealthy Apple.
- 1 Dwarf Yellow Transparent Apple.

- 1 large size Carman Peach.
- 1 large size Crawford Early Peach.
- 1 large size Elberta Peach.
- 1 large size Yellow St. John Peach.

- 1 large size dwarf Anjou Pear.
- 1 large size dwarf Duchess Pear.
- 1 large size dwarf Seckel Pear.
- 1 large size dwarf Bartlett Pear.

- 1 Gov. Wood Cherry (large size)
- 1 Montmorency Cherry (large size)

- 1 large size Abundance Plum.
- 1 large size Burbank Plum.
- 1 large size German Prune.
- 1 large size Red June Plum.
- 1 large size Shrop. Damson Plum.

- 1 large size Orange Quince.

- 5 Red Cross Currants 2-year No. 1.
- 5 Diploma Currants, 2-year No. 1.
- 5 Downing Gooseberry, 2-year No. 1.

- 100 Sweetheart Strawberries.
- 10 Eldorado Blackberries.
- 10 Grapes (Grape Collection)

The approximate cost of this garden will be about \$15.00.

Trees as Food

"Many trees store starch—for example, the beech, oak, maple, poplar, ash, alder and elm. Others, such as the linden, the birch and evergreen, contain stores of oil. Of these the most useful for the nourishment they hold are those which have a large amount of sap-wood. This is especially true of the so-called 'sap-wood-trees,' such as the birches, aspen, various kinds of maple, etc.

"Those which contain bitter or injurious substances must be excluded. This applies particularly to the evergreens on account of the resin found in them. The bark likewise must generally be excluded, at least where human food is in question, because of the tannin and other bitter or offensive substances it contains."

From the data given above it is obvious that dry sap-wood contains a large amount of potential food, no less than from one-fifth to one-fourth in those trees holding starch and sugar, and a somewhat less amount in the oil-holding trees, concerning which the data are scantier. But how is this food-material to be extracted and made available? That's where the rub—or the grind—comes in. These valuable substances are enclosed for the most part in cells whose walls have become lignified or woody, and which therefore resist penetration by the digestive fluids in the human alimentary canal. Unless the wood be specially prepared, therefore, the diner may rise from a hearty feast on some monarch of the forest no better nourished than before he sat down.—"Literary Digest."

"If thou wouldst have a good crop, sew with thy hand but pour not out of the sack."

"Nobody sows a thing that will not sell."

The Garden

By JOHN GREENLEAF WHITTIER

O Painter of the fruits and flowers,
We own Thy wise design,
Whereby these human hands of ours
May share the work of Thine!

* * *

Our homestead flowers and fruited trees
May Eden's orchard shame;
We taste the tempting sweets of these
Like Eve, without her blame.

* * *

Its earliest shrines the young world sought
In hill-groves and in bowers,
The fittest offerings thither brought
Were Thy own fruits and flowers.

A hymn for the American Horticultural Society, 1882. (Originally written to be sung at an agricultural and horticultural fair in Amesbury, Mass. in 1883. It was translated into Portuguese by Dom Pedro, Emperor of Brazil, and read at a harvest festival. It has been translated into Italian also and sung by peasants at the gathering of the vintage.)
Houghton, Mifflin & Co., Boston, Mass.

- 1 Gov. Wood Cherry (Sweet)
- 1 Montmorency Cherry (sour)

- 1 Bradshaw Plum (blue)
- 1 Yellow Egg Plum.

- 1 Orange Quince.

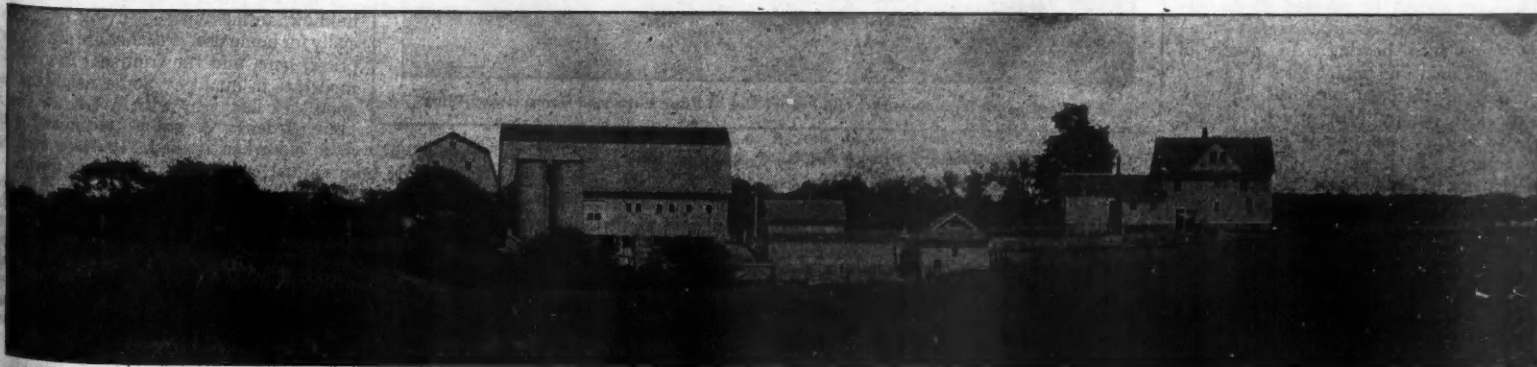
- 50 Senator Dunlap Strawberries
- 25 Superb Everbearing Strawberries.

- 1 Delaware Grape.
- 1 Brighton Grape.
- 1 Campbell's Early Grape.
- 1 Niagara Grape.

- 5 Red Cross Currants.

- 6 Cuthbert Red Raspberries.
- 6 Herbert Raspberries.
- 6 Eldorado Blackberries.

The approximate cost of this garden will be about \$6.50. If you have a larger lot simply add more of the varieties which you prefer.



Peaches at a Profit

By EARLE W. GAGE, N. Y.

The first essential in successful and profitable production of peaches is the right location. Peach trees have one absolute requirement and that is a well drained soil. On the commercial scale depends the selection of a suitable location which takes into consideration probably conditions and circulation of the air surrounding the trees during extreme cold weather and at blooming season. Good air drainage is almost as important to the peach grower as ground drainage.

A good-sized, healthy, vigorous tree is most desirable, because these conditions in a tree as it comes from a nursery indicate the power to make a healthy and vigorous growth when planted in the orchard. Sometimes a small tree will develop well, its size alone indicating that it has either not had good care or that the vitality of the stock from which it was produced has not been good.

In order to re-establish the balance between the amount of leaf surface and the amount of feeding roots which the tree is to have during the first year in the orchard, remove the lateral branches and the top, planting a plain stem about two feet long. Experience has shown that in case of dry weather a much better stand will be insured than when more leaf buds are left to develop.

During the dormant season after the first year's growth, prune to establish the form desired. Usually this is the bell-shaped tree, as near the ground as possible. It is more easily pruned, more readily sprayed and the fruit is more conveniently picked from the low tree. The open, bell-shaped tree is considered better because it is the form of low tree which is up out of the way when cultivation takes place in spring. It protects the buds from late frosts and, when opened out by the weight of the crop places the fruit grown from the same buds out in the open, in the sun during the day and in the cool air during the night, and two main factors in producing highly colored fruit are obtained.

To obtain the bell-shaped tree, take a tree that has had one year's growth, select from three to five of the branches near the ground; above these remove the original stem just above the top branch selected to remain.

This gives the tree form and all future pruning is simply keeping this center open, removing all branches which turn down to the ground and keeping small branches thinned out to proper thickness. During second and third summers if the trees are making vigorous growth some of the pruning is done in July. This checks wood growth and stimulates the formation of fruit buds. But this must be done with great care. It should never be done to a bearing tree, or a non-bearing tree that is not making a heavy, vigorous growth. In such cases, all pruning should be done during the dormant season, thereby stimulating the wood growth. On this account it is usually necessary to do a good deal of winter cutting in old trees so as to produce enough new wood to keep up the bearing surface.

During the first two years hoed crops such as tomatoes, potatoes, melons, peas and beans are planted among the trees, and the fertilizers and cultivation given the hoed crops are sufficient to keep the trees growing in a vigorous fashion. Leguminous cover crops during the winter store nitrogen and humus in the soil and create good conditions for the production of maximum crops of fruit later.

Cultivation is planned to produce a quick, vigorous growth in the early season, then check growth in the late summer and allow the buds time to ripen before the cold weather comes. To obtain this begin to cultivate just before the time of blooming and keep thoroughly cultivated for ten to twelve weeks, when the cover crop should be sown. Amount of cultivation at each end of season should be calculated according to moisture conditions. The object is to obtain good moisture until the fruit is well grown and then allow the tree to cease vigorous growth in order that we may have good, solid fruit and allow the bud to ripen.

The trees should be allowed all the fertilizer that they can use at the season when they come into bearing. An excess of phosphoric acid and potash does no harm; an excess of nitrogen produces an overgrown, soft, sappy fruit which does not carry to market well, and is generally unsatisfactory. To meet these conditions without taking any chances of producing unsatisfactory results with the nitrogen and still use enough to produce large crops, a plan has been adopted of applying at the time of the first cultivation in the spring of an excess amount of phosphoric acid and potash which will be used. When the trees come into full leaf—usually latter May—apply nitrogen according to the needs of the tree as indicated by the color of the foliage.

If the foliage is not dark enough, apply from one to

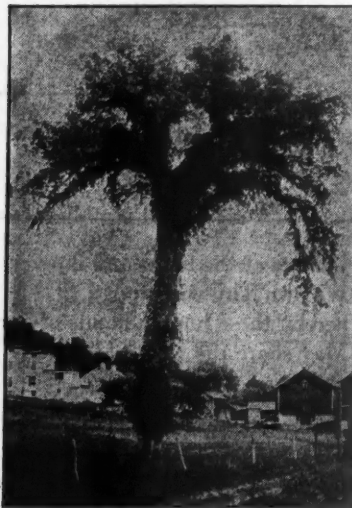
three pounds of nitrate of soda per tree, spreading around as far as the branches reach and working this in, always bearing in mind that too much nitrogen is worse than too little. Nitrate is to be desired, for it is more quickly available, and foliage color must be watched before using it.

Good cultivation, thorough spraying and liberal fertilization seem to be the keynote to success in profitable peach production.

The Broken Fruit Tree

By J. S. UNDERWOOD, III.

The broken fruit tree is a common sight on many farms throughout the fruit growing sections. In the majority of cases the real cause dates back to the early days of the tree when improper methods of pruning were followed,



Photograph of a remarkable elm located near Fort Plain, N. Y., on the road leading to Cooperstown. James Fenimore Cooper greatly admired this beautiful tree and made mention of it in one of his romances.

resulting in the formation of weak and objectionable crotches. When the tree becomes heavily laden with fruit or when a windstorm strikes the locality the tree breaks down. The result is a loss of fruit and impairment of the future value of the tree. This is particularly true if no effort is made to repair the damage done.

If the branch or section of the tree has not been broken off completely a few minutes work will often save the life and usefulness of the tree. A bolt can be put through the tree, holding the several parts closely together. A chain can sometimes be used but it has an objectionable feature in that the two parts of the tree cannot be drawn closely enough together. The bolt also interferes less with the natural processes of the tree and is quickly covered over with the natural growth of the tree.

When the two parts have been drawn together as closely as possible the joint should be cemented over with a thin cement composed of one part cement to two parts sand. This is to prevent moisture getting into the fracture and causing decay. If the moisture can be kept out for a time the parts will gradually grow together and



A Broken Apple Tree Saved by the Proper Use of Four Bolts and Some Heavy Wire

the difficulty will be overcome.

The extending of the usefulness of a tree as outlined is a comparatively simple process and there is little or no excuse for leaving a large useful part of the tree lying on the ground when a few minutes work will repair the damage. The tree should be repaired before the sap rises in the spring and should a break be found too serious for repair the saw should be applied so as to save for the good part of the tree all the strength that the soil can provide.

Farm Renting

It was found that during the period covered by the survey, half-share renting was more popular and more profitable than cash renting. The agreements between tenant and landlord vary, but a general idea of the half-share system may be gained from the following plan, which was used on 186 farms: The tenant furnished labor, stock, tools and teams and gave as rent half the grain and half the returns from other crops sold, but none of the receipts from livestock. The landlord furnished all the fertilizers in some cases, and half in others, says "Democrat and Chronicle."

The 186 tenants mentioned made an average labor income of \$323. Thirty-five tenants who rented for cash made an average labor income of \$206. Twelve farms of more than average size, rented for half-share of crops and dairy operations, brought an average labor income to the tenant of \$715. (The labor income is found by deducting from the family income the value of unpaid family labor and interest on working capital).

On a 120-acre early trucking farm, valued at \$10,000, worked under the crop half-share system of renting, the landlord spent \$2,362, of which the largest portion was for fertilizers. His share of the crops amounted to \$4,810. The tenant spent \$2,315, of which the largest portion was for labor. His share of the crops amounted to \$4,478 (his share is smaller because he did not sell his half of corn, and his income from eggs and butter was only \$28).

The foregoing figures appear to indicate that the tenant and landlord, by combining their resources, fared better than either would have done if he had worked alone. Tenant-farming may not be an ideal system, but it apparently has advantages which should be investigated by the many unsuccessful small-farm owners in this country.

Building and Remodeling the Farm Home

(Continued from Page 1)

used effectively with wainscoatings. These are essentially matters to be decided by personal preference and taste.

Hard wood floors are a luxury and require daily care. A new floor, or an old one that is not too uneven, may be made presentable and serviceable by the use of crack filler and two coats of oil paint. A special floor varnish which can be wiped with a damp cloth requires much less care than waxing. If the floor of an old house is too badly worn for this treatment, sewed Japanese matting laid over paper lining, makes a clean and wholesome floor covering.

The finishing of the wood work depends upon the wood and its condition. Unless it has a decided grain it should be painted rather than stained.

Furniture should be chosen first for its utility, and second for its good lines; its simplicity or elegance depending upon the amount to be expended.

Hem stitched scrim or ruffled muslin curtains are the best window draperies because of the comparative ease with which they may be kept clean.

As a parting reference to the above plan, I would suggest the building of an out-of-doors living room, back of the dining room. These enclosed porches spell comfort night and day during the summer months, and much of the preparing of fruits and vegetables for table and canning can be done here. One reason why we do not spend more time out of doors is because we have failed to make out door yards attractive. Our English cousins can teach us much in this respect and it will be our pleasure next month to discuss the planting of the Home Grounds.

About Maine Fruits

In planting fruit trees in this region, best results follow when a large pail of water is turned in the hole as the soil is drawn in about the roots, chucking the tree up and down just a trifle to let the water settle about the tree.

There are peach possibilities in this region unknown to most persons living here, especially for home use. Peaches are always high priced here, and the fruit sent in generally moderate in quality. Some neighbors had good luck last year with a tree or two in their gardens. A peach tree near by was close to fifty years old when it died. It was a seedling, white. It bore annual crops of fruit of fine flavor. I regret that the variety has passed out of existence. Other varieties grew here like the Crawfords with some success. Tall evergreens were set up around them. There are other ways of giving them protection in winter, laying the tree flat on the ground and covering with something. The roots can be cut on one side and the tree pulled over to the ground. Trees may be set in barrels of earth and treated after the manner of house plants. Varieties that ripen their fruit early give better results than the late.

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How to Plant Trees

By J. C. WHITTEN, Missouri College of Agriculture

Young trees rather than old, large ones should be selected for planting. One-year-old fruit trees are for the most part preferable to two-year-olds. They transplant more readily and more safely. The proper depth to plant is the depth at which the tree stood in the nursery. The beginner usually sets his trees too deep rather than too shallow.

Young trees planted in this section frequently have a tendency to subsequently tilt toward the northeast and stand crooked. This is due to the fact that our prevailing winds during the growing season are from the south and southwest, and to the partial sunscald of the south or west sides of the tree which results from heating up of the sunny side of the trunk during sunny days in late winter and subsequent sudden freezing at night. The tree should be set so that its heavier side is toward the southwest and so any sway in the trunk will bend toward the southwest. In this position the tree is much more resistant of bending away from the southwest wind, is shaded by the heavier branches on the southeast side so it is less liable to sun scald. In order quickly to determine which side is the stronger, better developed, stiffer side to set to the southwest, balance the tree across the hand as it is caught up for planting. The tree will roll over in the hand until it comes at rest with the heavy side toward the palm of the hand. Plant this side to the southwest.

Before setting, trim any ragged wounds on the roots and shorten very long roots so they will not be cramped in planting. Tramp the soil firmly from the bottom of the hole up, in setting. When the hole is filled, spread an inch of loose soil over the tramped surface so as to prevent baking and drying out.

Peach trees should be pruned back most severely of any of our orchard fruits when set. All the side branches should be cut off close, thus trimming the tree to a single whip. This whip should then be shortened to about two and a half feet in height.

Cherry trees should be pruned least severely of any of our orchard fruits. If well branched, cut out the central stem of the tree so as to leave an open center. Leave three to five main outward spreading limbs well distributed around the trunk.

The reason for pruning the peach so severely is because it readily puts out strong new limbs from the main trunk. On the other hand, the reason why the branches of the sour cherry should not be shortened is because they start growth readily from the active buds near the tip of the limb but will not produce vigorous growth from the dormant buds of the main stem or base of the limbs.

The Japanese plum tree should be shaped like the peach. Other plums, apples, and pears should be formed as follows: If the tree is an unbranched one-year-old, having a single whip, simply shorten the whip to 2½ or 3 feet in height. If the tree is well branched, cut out its central leader above the branching system to give an open center. Shorten back the branches which remain, one-third to one-half their former length.

Maxims for Success

St. Louis, Mo.,—Charles M. Schwab, the wonder worker of the steel industry, was asked here his maxims for success. He replied:

"I am not one to dwell on saving pennies. Be bold and take reasonable risks."

"The boy in the work shop has same chance to succeed as the boy in the university."

"A pleasing personality is one of the important requisites for success."

"Be a gentleman at all times."

"Honesty and integrity are absolute necessities."

"Be proud. Hold up your head, when you talk to men of affairs; never cringe, and always hold a stiff upper lip."

"Money is not a success. It is mere measure."

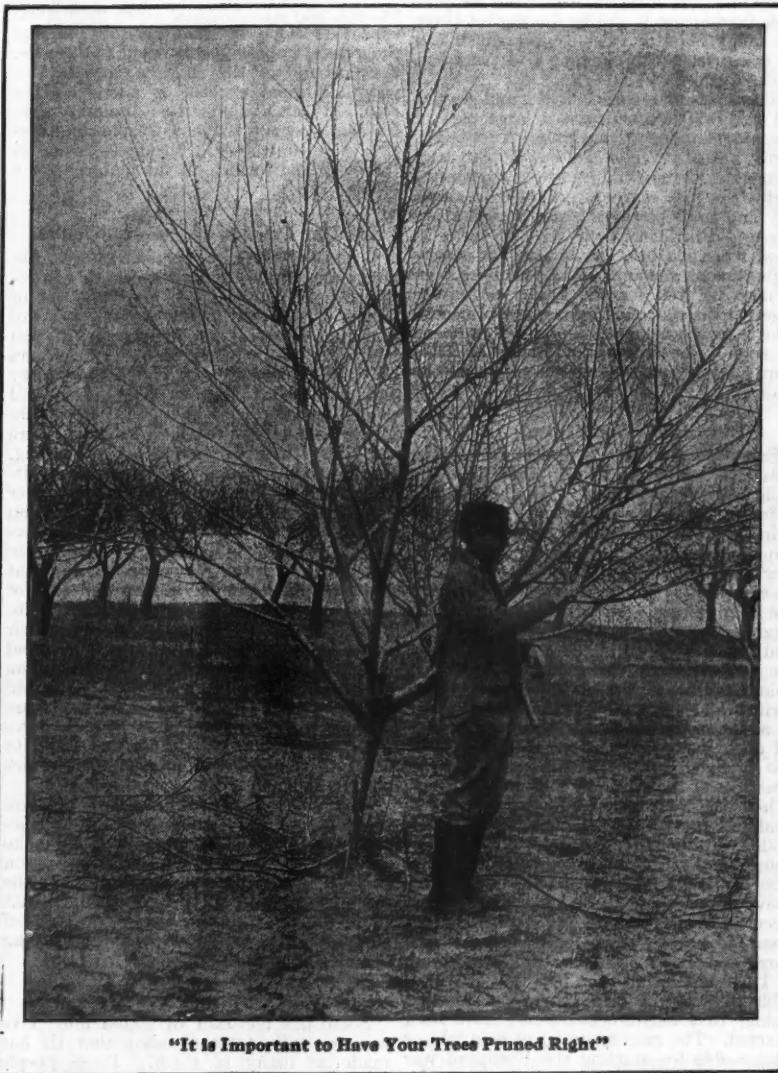
"There are more opportunities for success today than ever."

"It is no crime to make a mistake—once. To make the same mistake twice is unpardonable."

Pruning Points Worth Your Attention

By F. H. SWEET, Va.

It is important to have your trees pruned right. Pruning is not for the purpose of checking growth, but to direct it in proper channels, like bringing a boy up. If you start him right, he will in all probability end up right, but, on the other hand, if he is not started right, he may get into trouble later. And that is exactly the same with fruit trees. The pruning of a fruit tree is simply to direct the growth of the tree in the proper channels, so that it will have plenty of vigorous wood to hold fruit and be in shape to hold the most fruit possible. So that, in pruning, get away from the idea of having to cut a tree a certain amount. And when they get old, trees don't need much pruning, and yet I notice people cut and slash here and there; and many a man thinks he is a good pruner if he leaves a good deal of brush under the trees. As a result of that, the tree, finding its energies checked and finding so much of its fruiting wood cut off, it just simply has to put its vigor



"It is Important to Have Your Trees Pruned Right"

into other channels and grows up a great mass of water-sprouts and suckers. If you prune a tree all at once very heavily, you will have a growth of water-sprouts, and that is a good indication that you have pruned your tree too severely. The very same material that the tree used for plant food, that it has used to grow that wood, which was cut off and went into the brush pile, is the very same material that makes the apple, that goes into the apple barrel. It is just a means of directing that growth. The pruning of a tree is not for checking growth, but for directing it, and practically all the important pruning should be done when the tree is small. The most important pruning is when it is set and it should be cut off 20 to 24 inches from the ground. You will find that a tree, started close to the ground, and with a small amount of trunk, doesn't get so much sun scald and will make you a much better tree than sending it up straight.

Now is the time to plant paeonies, ornamental plants, vines and trees, also fruit trees. A little money spent in beautifying the grounds surrounding your home will add much to the value and will be far more attractive to your family, your friends and the public.

Old Apple Orchards Made New

It is something of a proposition to make over an old neglected apple orchard but we have seen it done in several instances and done so thoroughly that large crops of fruit were produced the second and third years after the work was started. One must wait for a considerable period before realizing anything from the new orchard but the old orchard may be made a profit producer in a comparatively short time, says The Indiana Farmer.

There is no better time to begin the work of renovation than during the fall or winter. Begin with pruning. This means cutting out everything that is dead. Old orchards usually have plenty of dead wood. This may be removed any time during the fall. If severe dehorning is contemplated, it is usually better to delay the work until the approach of spring. If trees are tall, as is usually the case, it is better to cut them back. Effective spraying work or ease in picking fruit cannot be accomplished upon tall trees. First cut out all dead limbs and branches as well as the smaller twigs that overlap and interfere with each other. It is difficult to advise just how a tree ought to be pruned. Each tree requires individual plans. In general it may be said, however, that work should be commenced at the bottom. Work up to the height desired for the top and then cut the larger limbs. This should always be done just above a lateral branch and the cut should be made slanting to shed water. By painting the wound and leaving the lateral branch to take up the sap, the cut will heal without bad effects. Old trees will stand the shock better if the heading back is not all done in one year. Better stretch out the operation to cover three seasons if there is a big top to be taken off.

Methods of Control of Peach Curl

Peach leaf curl may be controlled either by bordeaux mixture or by lime-sulphur solution. Since the lime-sulphur solution diluted at the rate of one gallon to eight gallons of water will also control San Jose scale, it is more commonly used. If the scale is not present the lime-sulphur may be used at the rate of one gallon to fifteen gallons of water.

The most important factors in the control are timeliness and thoroughness of application. Infection appears to take place during the first prolonged cool rain after the buds begin to swell, and spraying after this time has not proved effective.

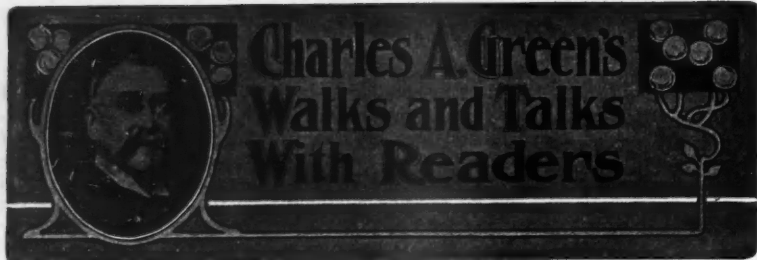
Spraying may be done any time after the leaves fall in the autumn and before the buds begin to swell in the spring. Experiments conducted during the past two years have shown that fall spraying is fully as effective as spring spraying. Usually also the weather and soil conditions are more favorable in the fall. It is therefore advised that spraying for peach leaf curl be done in the fall so far as possible.

The spores of the fungus, it is thought, remain over the winter lodged in the hairs of the bud scales. This makes it necessary to wet all of the buds with the spray mixture. A fine spray applied to both

sides of the tree is essential. The state college of agriculture at Ithaca has issued a circular which gives the results of the first year's work on fall spraying. It may be secured by writing to the department of publications, state college of agriculture, Ithaca, New York, asking for circular number 31 B-007.

The Power of Silence

A good deal of power is with those who talk least. Listen to the ebb and flow of conversation round about you and ask yourself what difference it would make if most of it faded away to nothingness, says Philadelphia Ledger. From any large gathering talk rises like smoke above a camp, and in the number there are those who are by no means facile in talk, who are nevertheless quick and clear-eyed and able to perform. Those who talk fast and much are open always to the suspicion that they let it all end then and there. Let no man mourn if he is denied the gift of eloquence. His word of wisdom perhaps outgoes and outdoes the influence of mere noisiness. He speaks from the place that he has made. His life is behind his counsel. His character, validates and verifies his opinions. —Philadelphia Ledger.



Home Improvement

Sometimes we see things better at a distance than we do near by. When I visit New York, Philadelphia or Washington I can look back upon my business affairs at Rochester, N. Y., with clearer vision, can see needed reforms better than I could when sitting at my desk in my office.

As I look back upon my farm experience I see the lack of walks about the farm home. During the rainy seasons of spring and fall I recall the fact that it was impossible to move about the yard or from the yard to the barn without getting almost knee deep in mud.

At Green's Fruit Farm we have discovered a gravel bed. When the hurried season is past it has been my habit to set the men at work drawing gravel, thus making walks from the house to the street, and from the house to the well and from the house to the other outbuildings. In front of the carriage house was a wide expanse made necessary for driving in and backing out carriages, etc., and this was always a muddy spot in wet weather, thus requiring a heavy application of gravel. We made with gravel a walk from one barn to another.

While gravel applied in quantity makes a fairly good walk, there are better walks. I refer to the cement blocks so-called, walks four or five inches thick made of cement and gravel. It is desirable that the walk from the porch to the street and from the porch to the well at least be made of cement and gravel.

Keep close watch of devices for saving work in the kitchen as well as in other affairs of the farm. I speak of the kitchen for the reason that it is the place most likely to be overlooked when the question arises of labor saving devices. You should find these improved affairs at the local or state fairs. They can usually be seen at the large hardware stores. Anything that can be done to save the work of the farmer's wife I feel sure will be profitable.

Pedigree Stock and Whole Root Grafts

The nursery business, so far back as I can remember, has been subject to freak claims, by which one nursery would attempt to establish the assumed fact that their trees were better than all others. One of the favorite claims is in regard to pedigree stock, which means that the nursery has selected from a plantation of strawberries, or an orchard of apples or other fruits, a certain plant or tree that produces larger and better fruit than others, that they have propagated entirely from this one plant or one tree and thus have secured pedigree stock. This claim has recently been tested by one of the experiment stations as regards the pedigree strawberry plants and has been found fallacious. Planted side by side with plants that are not pedigree plants, the so-called pedigree plants were in no way superior to the ordinary.

As regards fruit trees there is yet a suspicion in the minds of many that there is such a thing as a pedigree tree. At Hilton, N. Y., a tree of the Twenty Ounce apple was discovered to be bearing Twenty Ounce apples of more brilliant color than other trees of the same variety. Similar discoveries had been made of other varieties.

As regards the claim that a tree in the nursery produced by grafting on a whole seedling root makes a better tree than if the tree is produced by grafting on a piece of apple root has been found to be entirely fallacious.

Best Use for Old Iron From Cast Away Implements

The farm is the place where many forms of implements and machinery can be used. There comes a time when these must be abandoned, being too much worn or out of date for the purpose for which they were made. I have found these out of date affairs valuable in many ways. The handles of an

old plow may be used in making the corn marker or possibly for handles on a one-horse cultivator, or for bolting on to a newer plow temporarily where a part of the new plow handle is broken. The seats used on old mowers or reapers can be attached to cultivators, harrows or other farm tools. The pole or tongue can often be useful as can the neck yoke and whiplike trees of an old machine. After these various parts have been taken off from the abandoned machine and laid away for possible further use it will be found that there are many bolts of various sizes which can be taken from the machine and placed in the tool house.

Then come the varied shapes and sizes of old iron which constitutes a large part of the old abandoned machine. At Green's Fruit Farm we have an out of the way corner where these old castings are dumped and where they can be overhauled occasionally and some of them made use of where one would little suspect. At such times as these when old iron can be sold for a very high price on account of the European war, it may be well for the reader to gather together the waste old iron on the place and take it to the nearest foundry where it can be sold. The amount of money received from a lot of such old iron may surprise the reader.

Start Something

Some people have what is called the initiative, which means that they have the ability to start things. This ability is different from the executive ability but akin to it. If you have in your community a man who is now and then or continually starting things, prize him highly for he is an exception. The larger part of humanity not only does not start things but has repugnance for such an effort. Teachers and preachers often succeed or fail as they are blessed with the faculty of starting things. One of the shortcomings of the farmer and fruit grower is his disinclination to start something new, to branch off on to some new enterprise. These men are inclined to follow the methods and practices of their fathers and grandfathers. When the man who has from boyhood confined himself to ordinary farm crops, plants an orchard, he has started something. For him it is a new idea. When the boy on the farm conceives the idea of removing the rocks, the boulders, that have been an obstruction for perhaps a hundred years, from the various fields of his father's farm or his own, he is starting something.

I will not dispute the fact that it is possible to start too many things, or to start things that might better never have been started. The man or group of men who is responsible for starting the European war might better never have been born, for such men have been the cause of the death of a million or more of their fellows and of the sufferings of many millions of others who have taken no part in the war.

Berries Cheap in One Locality And High Priced in Others

I am often asked whether strawberries are profitable when grown for market, or raspberries or blackberries, or grapes, currants or gooseberries.

Generally speaking my answer is: Yes, these are profitable fruits on the average, but there are certain localities where such fruits command a far higher price than in other localities, therefore, it is for you to decide after investigating the subject in your locality whether these fruits or other fruits will be profitable near your home.

There are thousands of villages even in such a fruit growing state as New York state, where strawberries and raspberries command double the price that they command at Rochester, N. Y., where we always have a fairly good supply of these attractive fruits, but the thousands of other villages that are not supplied by growers

nearby must send to Rochester or to other localities. This condition of things would not exist if there were more enterprising growers of small fruits near every village.

The point I am getting at is, that there is a great opportunity in many localities where no small fruits are grown for some man to step in and supply the market, which he can do with large profit in localities where there is no home supply or home grown fruit and where the village is dependent upon berries shipped in from distant fruit growing centers.

Getting Into Trouble

There are many ways of getting into financial difficulties. The one in my thought now is the man who builds a new house. He has received estimates as to the cost of this house from the architect or others. He has a certain sum of money to invest in the house and no more. In many instances, we might say in most instances, this man learns in the end that his building has cost him from a third to a half more than he anticipated. There are various reasons why the building costs more than expected. One is, that as the building progresses, improvements occur to the wife, the husband or the children, and in this way additional expense is added to the cost. My plan in erecting a building is, to let the contract to some responsible mechanic or contractor, who agrees to do all the work and furnish all the material for a certain sum.

Are Old Friends the Best Friends?

If you are along in years allow me to ask how many friends of long ago have you retained? If you will look over the list of names of your early schoolmates you will find that few of them are living. If you look over the list of the friendly neighbors of your youth or early years of maturity you will find that they have nearly all passed into the great unknown. If you are fortunate enough to discover that there are a few friends of your youth still living, I advise that you renew your acquaintance, that you hunt them up and talk over old times and old associates. Possibly, you will discover that you have a relative living, perhaps in your own state, perhaps in some distant state. My suggestion is, that you look up these individuals, visit each of them if possible, or if not possible, write to each one a letter of congratulation on their being alive and well and calling to mind instances and associations of the years long gone by. There is no friend like an old friend. We appreciate our old friends more and more as the years go by, for we have more in common with them and begin to feel something of the isolation that comes with advancing years.

Sometimes I am inclined to ask: Are the new friends so trusting, so self-sacrificing as the old? The new friends we make are often our friends simply for the reason that we are congenial, that we play the same games and do the same things that they do, but should this be the test of friendship, or should there be something deeper and more permanent?

Common Folks

Some one has said that God must love common folks for the reason that He has made so many of them. Those people classed as common are often uncommon folks. Lincoln and Grant were common folks in many respects. Those who are considered uncommon folks are those who live in palaces and who have abundant wealth and ability for making display, but these uncommon folks are often vulgar and of small intellectual caliber. Great reforms have been brought about by common folks. Common folks have ever been preyed upon, imposed upon by those who have ranked higher for one assumption or another. The men who are fighting the battles of Europe are mostly common folks, who are forced to fight, to risk their lives, to die of wounds or disease. Often one man has the power to declare war and to force millions of people into battle who have no desire to go to war, or who if they have a desire have been led through inveiglement or deception or erroneous teachings to engage in battle. Is it morally right that one individual should have this power over what is known as the common people? Here is a question to ponder over.

What is the remedy for the impositions practiced upon the people? The answer is individual thought or consideration rather

than acting upon the thought of others who seem to be higher up in the world affairs. One mistake of the common people is in acting upon the thoughts of others rather than upon their own thoughts or initiative. Even in the church it is well for individuals to have independent thoughts rather than to follow blindly the thoughts of others. This mistake has led the church into many errors which could have been avoided if church members would think for themselves.

Hickory Nuts Thousands of Years Old

I hear of fossilized hickory nuts discovered with the meats in prime condition, indicating that the shells were fossilized and the meats were edible. It does not seem as though this could be possible. In digging deep below the bed of a branch of the Genesee River near Rochester, N. Y., hickory nuts were thrown up at the depth of 20 to 30 feet below the surface of the stream. I was interested in these nuts which must have been at least a thousand years old. They were not shaped like hickory nuts of today, but evidently they were hickory nuts. In shape of shell they would indicate a cross between an English walnut and a hickory nut. The meat had entirely disappeared from these aged nuts.

Rats. Some one says that cement floors will rid the buildings of rats, but this is not my experience. A few years ago I built a new brick barn with cement floors. The rats have taken possession of this building. They do not get under the pavement, but they make nests in the hay loft, in the grain bins, wherever they can find a safe retreat. Sometimes these rats will disappear for a short period of time, but later they will come back in full force. We have tried trapping them and poisoning them, but have not succeeded in exterminating the pestiferous rat.

On the Run

I once employed a carpenter, off and on for many years, who was always on the run—at least he was on the run whenever I happened to be around the place where I could see him. This man had remarkably long legs and long arms, therefore he was a spectacle when seen running from one building to another. I found later on that this fast runner was in fact often remarkably slow in his achievements and that he actually killed time in order to make a little job hang on as long as possible. If your employer finds you sitting on the fence or in the shade, don't jump up and grab your hoe or scythe as though you were going to have a fit. Remain in the shade, look up honestly at your employer as much as to say, "I have a reason for being here and am not ashamed to be here where you see me."

Leading Varieties of Apples for New York State

Among the varieties grown in western New York the Baldwin stands far in the lead. Probably more of this fruit is put upon the market than of all other apples put together. Rhode Island Greening ranks second, says "The Fruit Industry in New York State." These two varieties supply not less than two-thirds of the apples produced in western New York. In fact, the same may be said for the entire state. Third in general importance comes Northern Spy. Among others worthy of mention as commercial varieties are: Tompkins King, Roxbury, Golden Russet, Hubbardston, Nonesuch, Twenty Ounce, Pumpkin Sweet or Pound Sweet, Fall Pippin, Maiden Blush, McIntosh and Duchess of Oldenburg. The value of these kinds for commercial planting in western New York is not problematical. It has been thoroughly demonstrated by years of experience.

Generally speaking, those who contemplate planting commercial orchards in this region would best not go outside of this list for their selections without giving the subject very careful consideration. For local or for special markets, or in special localities, other kinds might be found equally satisfactory. Among those worthy of consideration in this connection may be named such old kinds as Alexander and Wealthy for fall, Black Gilliflower, Ben Davis and its sports Gano, and Black Ben Davis, Westfield Seek-No-Further, Tolman Sweet, Swaar and Rome Beauty; and among newer sorts, Delicious and King David.

What Varieties Shall we Plant?

The whole question rests on climate, soils and markets. People have had a long enough experience in various districts of the Province to know that the tender fruit belt, commercially speaking, is for the most part restricted to the southern parts. The apple, however, in some of its varieties may be grown almost anywhere in older Ontario, says A. W. Grant in "The Canadian Horticulturist."

Fruits have soil likings. A very light, sandy soil, or a very heavy clay one are not well adapted to growing fruit unless soaked with manure.

The trend of the markets today is for a well colored red apple. The King fills the bill for both home and foreign trade, but does not produce liberally. The Spy out-prices the King on this continent, but not in Great Britain, and bears well. The Snow and McIntosh compete with these varieties in price, the latter perhaps outstripping them. The first two varieties do well in the western portions of the province, while the two latter find their natural home in the east.

If, then, red apples should mostly be planted for commercial purposes, the question of varieties for a given district in the province seems to hinge in their adaptability to climate. If an inexperienced planter wants to set out a young orchard, his best plan is to get the advice of an experienced apple grower in his own section. The same thing applies to any kind of fruit.

Apples do best on well-drained, sandy gravel and light clay loams.

Pears

Where pears succeed and are cared for they are a fairly profitable crop. Many are grown in this district. Perhaps Bartletts are the most generally planted, but there are also quantities of Clapps, Anjou, Duchess (dwarf), Sheldon, Clairjean, Keiffer and some Winter Nelis.

Of the older varieties noted above, probably the Bartlett is the most profitable. Pears like a clay soil but do very well on sandy and gravelly loams.

Many plums are grown. Unless in large orchards, they have not paid during the last fifteen years. The Lombard is perhaps grown the most extensively on account of its great productiveness and generally good qualities. The Bradshaw, Imperial Gage, Reine Claude, Glass, German Prune and the Damsons are also produced in quantities. Damsons, Prunes, Reine Claude, and other late kinds bring the best prices.

Of the Japanese varieties the Burbank seems the most satisfactory. It bears very heavily every other year, is showy and not bad in quality. Like the apple, plums thrive on a wide range of soils.

Cherries require a dry sub-soil. They are especially fond of sharp, gravelly land, preferably a ridge. The Richmond, Montmorency and English Morello are the leading sour varieties, ripening in the order named. The Windsor is perhaps the best sweet or half sweet cherry. The Montmorency is probably the most profitable.

We should go slow in planting cherries for a few years. There are numbers of young orchards just coming into bearing.

Of the tree fruits mentioned above the apple is probably the most profitable. There is very little danger of the over-production of good apples. The poor apples alone cripple the market.

Bedridden Fifty Years, She Knitted 100,000 Pounds of Worsted

Miss Mollie Fancher, who celebrated her "golden jubilee" as an invalid eight days ago, died February 11th at her home in Brooklyn.

Miss Fancher was known to thousands of people all over the world through the extraordinary correspondence she built up during the half century of her invalidism. Although bedridden and only able to move her right arm she worked unceasingly at knitting and embroidery and is said to have used up 100,000 pounds of worsted.

In 1866, when Miss Fancher was 17 years old and noted for her beauty, she was thrown from her horse and terribly injured. A year later she was the victim of a street car accident, which deprived her of the use of all her limbs except her right arm. For nine years she remained in a trance-like condition. During the fifty years of her imprisonment in a sick room Miss Fancher's chief nourishment was the juice of fruits.

Note by the Editor of Green's Fruit Grower: I have a friend who has been deprived of the ability to walk or move for fifteen years. I have another friend who has been confined to her bed for twenty years and who has been a great sufferer, and yet this girl supports herself by her work. The point I wish to make is that if these invalids who are deprived of exercise and of the enjoyment of the larger part of life can retain a measure of health and live on and on almost the full span of life, what should be expected of us who are well, strong and healthy with full ability to make use of every health giving precept or suggestion. As a friend suggested to me recently, our health depends largely upon the observance of a few simple details. Does it not seem

as though we who are so well equipped for long life should be ashamed to be sick?

The Insect's Sting has been Known to Kill

In proportion to its size, the sting of the honey-bee is probably the most effective infernal machine in existence. The stinging apparatus is smaller than that of a rattlesnake, yet a single sting has been known to kill a man. When we realize that it is almost invisible, and consider what it can do, we cannot fail to be astounded. It seems the very quintessence of devilishness.

The honey-bee's sting is complicated—so complicated that many words and much ink have been used in discussing its construction and use. It is generally conceded that

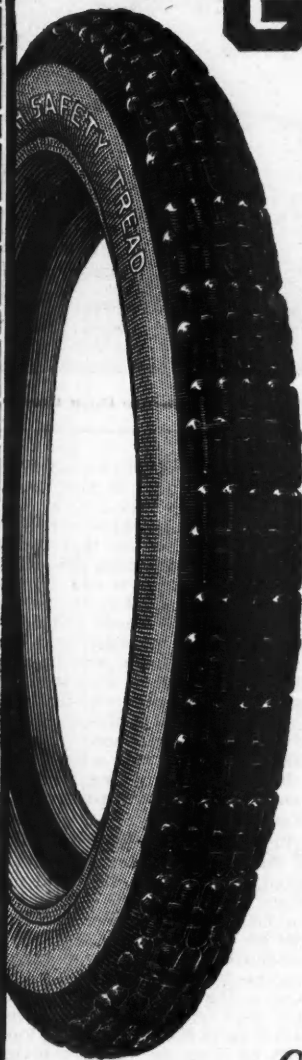
the sting consists of a shaft of three parts, the principal one being a sheath within which move two barbed lancets. Like the barbs of a fish hook, the lancets are not easily extracted from the flesh into which they have been driven. The sheath and the lancets combined form a hollow tube through which the poison flows from the poison sac. Two hairy, soft projections, evidently very sensitive, inform the bee when she is in contact with a stingable object.—"Popular Science Monthly."

The Fossil coral of the Fiji Islands is said to be the best building stone in the world. When first cut it is almost as soft as cheese, but it solidifies in the air until it is as hard as granite.

Fair List Prices

Fair Treatment

What You Get With GOODRICH BLACK SAFETY TREAD TIRES



HAVE you ever taken stock what you get WITH as well as IN a Goodrich Black Safety Tread Tire?

You know, of course, you get the *best non-skid fabric* tire, the oldest, largest, most skillful rubber manufacturer can make, and get it at the *low standard ONE-PRICES* of the *Goodrich Fair List*.

You know you get the toughest tread, rubber compound—has yet produced, and all the *seven cardinal* tire virtues—style, comfort, safety, economy, durability, freedom from tire trouble, and mileage—IN a Goodrich Tire.

But have you looked deep into the Goodrich *pledge of perfection*, and *Goodrich Fair Treatment*, which go WITH each Goodrich tire, and require a service worthy of the good name the tire bears?

Goodrich Tires Must Make Good

If, as occurs in rarest instance, a tire fails to render its service, the B. F. Goodrich Company is more eager than you that its short-coming be made good.

Bring back a Goodrich tire that owes you anything: is Goodrich's invitation, to the world.

Goodrich Fair Treatment at once cancels any debt of a Goodrich Tire—makes good quickly, generously, and gladly.

Certainty of utmost service is what you get WITH a Goodrich Tire

ORDER THROUGH YOUR DEALER

The B. F. Goodrich Co.
Akron, Ohio

Also maker of the Tires on which Dario Resta won the official 1916 Automobile Racing Championship—Silvertown Cord Tires

SILVERTOWN'S DOMINATION OF 1916 AUTO RACING

The 1916 automobile racing season brought forth amongst a half hundred Silvertown victories the following special triumphs of the ONLY two-ply, cable-cord tire: National Automobile Racing Championship, won by Dario Resta with 4100 points, 15,582 points scored toward the championship by Silvertown to 7,176 by ALL its competitors COMBINED. Eighty percent. of all the prize winning positions of A.A.A. sanctioned races. 31 First to 5 Firsts by ALL its competitors.

Where You See This Sign Goodrich Tires are Stocked



Ask Your Dealer for Them

"Best in the Long Run"

Notes from Green's Fruit Farm

By E. H. Burson

ALADDIN 4
\$1092 DOLLAR A KNOT Profits Saved
on the Lumber, Millwork, Hardware and Labor. All material cut-to-fit. Complete homes shipped anywhere, fast freight. Send stamps for big catalog 1890
ALADDIN Home Co. By City, Mich.
HOMES



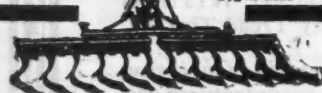
"The Coulters Do The Work"

They cut, crush, smooth, pulverize, and mulch, turning the soil twice—all in one operation. That's why the

"Acme" Pulverizing Harrow makes an ideal seed bed. Light draft—easy on the horses and YOU side. There's an "Acme" for every purpose—size 3 to 17½ feet in width. Send for new free book, "The Acme" Way to Grow That Pay. Do it NOW.

Duane H. Nash Inc.

129 Elm St. No. 23 Millington N. J. 6½ ft. wide



IRON AGE

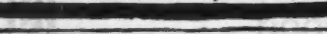
GARDEN TOOLS

How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?

IRON AGE Combined Drill and Drill Seeder

solves the garden labor problem. Takes the place of many tools—stored in small space. Sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's hand-work in 60 minutes. 33 combinations. \$2.50 to \$15.00. Write for booklet.

Bateman Mfg. Co., Box 16C, Greencloak, N. J.



Dishonest Fruit Packers. You may be able to teach a careless packer to be careful but I doubt if you can make a dishonest packer honest. During one of the sessions of the Western New York Horticultural Society held recently in Rochester, the greater part of one afternoon was spent in discussing a proposed amendment to the New York state apple grading law. The amendment, which by the way appeared to be intended to give the packer more leeway, a chance to work off on the buyer more fruit of doubtful quality, (to the credit of the members of the society), was voted down. Some fruit growers in this state realize that the western, particularly the Pacific coast growers, are securing a ready market in the eastern market, because of the fine appearance of the fruit, and the eastern dealer, sad to say, has learned that in many instances the New York state pack did not compare in quality with the western pack throughout the package and therefore they were handling the western fruit rather than take risks.

In the face of these facts it would have appeared to the writer a better policy (if an amendment was needed) to have increased the standard of Grade A and B rather than lower it, and to have the third grade so marked if possible that the buyer would know what he was buying. Perhaps a 'C Thru' cover would be a good idea.

The Tree Agent is often condemned, but if he is a good, straight, honest fellow his business is just as legitimate as any other business. If a home nursery doesn't impress the farmers and those who have garden plots in the vicinity that the planting of fruits or ornamentals would be advantageous, and a hustling agent comes along and sells these same folks apple trees at fifty cents and plum trees at \$1.00 each of the same grade and variety that the nursery firm would have been glad to have sold them at half the price, who is to blame? Surely not the agent.

Boxes, Baskets or Barrels. Now is a pretty good time to decide about the package to be used next season for the

apple crop. We are making up some boxes, 20 inches in length, 10½ inches in depth and 11½ inches in width, for shipping some of the best looking winter varieties, and have about made up our minds to try the new bushel basket pack for the summer and fall varieties. Our reason in part for this is we have come to the conclusion that the tight box pack is not conducive to keeping the fruit in good condition. Barrels will be used for the main crop of Baldwin and other late keepers. Now supposing we don't get the apples, it doesn't cost anything to hope that we will, and the boxes will be ready for another year anyway.

Lime. The American farmer who does not take up the use of lime through a desire for better crops is going to be coerced into doing so by repeated crop failures. Two of the chief essentials of crop production are a bountiful supply of humus and better drainage. Lime helps both by making green manure crops possible, says one who knows what he is talking about.

flowering shrubs in the bed set out at considerable expense near the station. With a sharp pair of hedge shears he made a very complete job of cutting off about two-thirds of the branches that would have produced blossoms in a few weeks, forsythias, japonicas, deutzias, spiraeas, weigelas, all had the same cutting attention, and the station agent, the employees and the patrons of the railroad are the losers.

County Farm Bureau. When ninety-eight per cent of a township committee answers to the call of the chairman on a blustering day in January (as did the committee in one of the towns in which the fruit farm is located) to suggest demonstrations, field and orchard tests, and meetings which the Monroe County Farm Bureau should carry on in the town during the year 1917, it surely looks as though our farmers and fruit growers appreciate the situation and have decided to be up and doing. With such co-operators as the State Board of Agriculture, the College of Agriculture, the railroads, the Granges, and the U. S.

Dept. of Agriculture, the Bureau should and will be of unlimited service to those who interest themselves to read, observe and put into practice.

Too Much Beef-steak and Cream. You and I have seen them, acquaintances of ours maybe, podgy, too heavy below the waist line, not able to do a fair day's work, living too good. The doctor will suggest more cereal and skimmed milk in place of some of the steak and cream. How about that row of fruit trees, or perhaps the orchard, fine looking trees, big bodies, strong limbs, phenomenal growth the past few years,

foliage large and healthy, but few if any blossoms. Something wrong somewhere. A fruit tree was meant to produce flowers and fruit just as a human being was meant to give to the world something besides form and possibly good looks. One thing we learn it is sure. Vigorous growth does not mean fruit production, and further that each tree or orchard needs its own prescription if unproductive.

The soil may be too rich in one instance causing a too heavy growth. I have seen this in the instance of a pear orchard, part of which was set on the site of an old barnyard, the trees on this particular spot being nearly double the size of the others both in body and limb growth, but scarcely a fruit specimen showing, whereas the other trees were well loaded. Again I have seen an apple orchard, trees set nearly twenty years and healthy looking, but heads far too thick, and little if any fruit to be seen. My advice in the case of the pear orchard was, "Don't apply any fertilizer or stir the soil around those heavy growing trees, summer prune, thin the heads fairly well and cut back considerably." In the case of the apple orchard it was evident that a severe pruning was necessary, the trees seemingly had not been touched since they were planted. A man of some experience was necessary to handle the pruning saw. The man was found and the next summer one could see through those trees and there was some fruit on nearly every tree, while the following season there was a big crop. But after all, to use the words of an authority "the treatment or remedy to be applied to any tree or orchard depends entirely upon what is wrong with it."

The Helpful Bulletins. Fortunately indeed is the fruit grower and farmer whose name is on the mailing list of the Division of Zoology of the Pennsylvania Department of Agriculture. The bulletins as issued contain a wealth of information. I know of no publication as valuable to the fruit grower as these bi-monthly bulletins.



An Attractive Farm Home

Now is a good time to secure the lime you need—time to draw it now, but possibly not when seeding time is here. I have just ordered a carload at \$1.50 per ton. Maybe the price looks so low that you may not think it contains enough elements to make it valuable, but try it out. Buy the pulverized limestone before the last fitting of that lot near the woods (which I guess is sour judging from many near-woods lots I am acquainted with), sow broadcast from 2000 to 3000 pounds, work it in and watch results. Then unless your farm is different from the majority in this section there will be other lots that need sweetening and lime will do it. A sour soil will not produce a full crop of anything that the farmer wants, and red clover positively refuses to grow.

Bridal Wreath. (*Spiraea prunifolia*). One of the early blooming spiraeas with small round shining leaves, flowers double white. When I look over the descriptions of the various shrubs, etc., offered in the catalogs that are coming in, I see that it is not to be wondered at that some planters are disappointed when the flowering time comes. Now in the instance of this spiraea I note that four out of six descriptive catalogs before me in describing spiraea Van Houttei refer to it as the bridal wreath, whereas, the bridal wreath is the spiraea prunifolia. The Van Houttei is a single blossoming variety while the prunifolia is a decided double. The Van Houttei is a splendid variety, the most satisfactory of all the spiraeas, but when one remembering the dear old bridal wreath in the old home garden has a 'homey' feeling, he wants the real thing and not a substitute, no matter how good it may be. Kirkegaard in his book of Trees, Shrubs, Vines, etc., describes the Van Houttei as the bridal wreath and this may have been one of the causes of the trouble with catalog makers.

Pruning the Shrubs. I was amazed one day last March in seeing an employee of the N. Y. C. R. R. busy trimming the

Greatest FREE Buggy Book

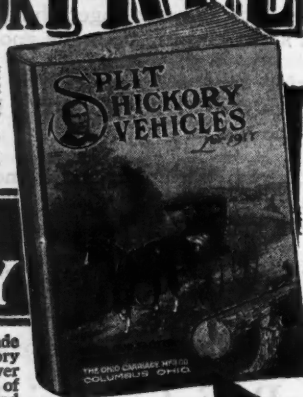
No matter when you expect to buy I want you to have a copy of my big free Buggy Book right away. It will make you a better judge of buggies and buggy values. It will show you how I am saving my customers \$20 to \$40 by my direct from factory special price-splitting offer for 1917. Write for this free book TODAY.

SPLIT HICKORY

I have been making high grade buggies for 16 years. Split Hickory Buggies are famous the world over for beauty of style, excellence of workmanship, light running and long service. I give 30 days free road test to prove the quality and to convince you that a genuine Split Hickory is the best buggy you can buy at any price. More than a quarter million of these famous rigs now in use.

You will be proud to drive one, too. My new plan of splitting profits with my customers has cut the price down to bed rock. You can now buy a genuine Split Hickory—direct from my factory and save \$20 to \$40. Write for the free book today. See for yourself the money you can save. Address:

N. C. PHILPS, THE OHIO CARRIAGE MFG. CO., 26 Columbus, Ohio
President
If you are interested in a new business or Farm Wagon, write for Catalog.



The illustration below shows my famous Split Hickory Special—the finest Buggy ever built. Has latest style Limousine Seat molded of sheet steel like auto—roomy, strong and comfortable. Never-leak automobile top. Wheels, shafts and chassis genuine "Split Hickory." Sixteen coat, oil-leak guaranteed painting. Catalog also shows 150 other styles.



Going came by The grass and in the horn catt man who along the towards the large cem from the engine thr the tank. that man picture of Gray-haired Strudger the well, with a top with water house. Th of that mai church. C visit his fa reached the said, "Ah,

Mulching Strawberries

H. S. Fry, Can.

Strawberries should always be mulched, says "The Canadian Horticulturist." The principal reason for mulching is to protect the crowns of the plants from injury as a result of heaving by frost or alternate freezing and thawing. In some places where the winter is less severe the mulch is of value in autumn before the ground gets frozen solid, but usually it is of greatest value about March, when we have a considerable amount of freezing and thawing before spring sets in.

Straw manure is the best material for strawberry growers to use, as it is easier to obtain than other materials and has a fertilizer value besides. It can be applied very easily with a manure spreader if it is not too long, and in such a case the spreader should be set to apply about fifteen tons to the acre.

This mulch should be removed in the spring before the leaves are unnecessarily checked by lack of sunlight. A good practice is to merely pull the mulch between the rows of strawberries and leave it there so that it may act as a mulch for the soil, and as a means whereby the fruit may be kept from getting dirty during the picking season. Providing the soil is in good condition and the manure is not too full of weed seeds, a mulch of this kind will conserve soil moisture just as well as if the ground were kept cultivated, while the fruit can be kept cleaner than if the soil were being constantly stirred.

Strawberry growers also make considerable use of this mulch in districts where it is desirable to prolong the season to secure better prices.

Perennial Phlox Beautiful Border

Perhaps no flower has been more wonderfully improved during the last few years than our hardy phloxes. In the new and improved varieties, with a wonderful range of color from white to deepest crimson, we have beauty and vigor combined. Many of these newer varieties are in addition quite dwarf in habit, a fact which increases their value for bedding and massing with other low perennials, says "Rural World."

If you want a phlox border which will be a delight, trench spade your ground and fertilize liberally before you put out your plants. Plant in masses, anywhere from one-half dozen to two dozen plants in a group, being careful to blend your colors well and plant the taller varieties in the background. While phlox do well in the full sun, you will be surprised to find how much brighter the flowers are and how much longer the blooms last if planted in the partial shade.

Perennial phloxes need good culture; they are gross feeders and resent being dried out. Give several liberal mulchings during the summer and arrange your plantings so they can be flooded, for overhead sprinkling, however fine, ruins the delicate blooms. Root division is the certain way of propagation if you want a reasonable number of plants. If you want to increase your stock rapidly try cuttings made in the early summer, or cut up roots in tiny pieces and sow them in flats. Both of these methods are used by growers and nurserymen.

Women's Work Not Aided by Farmers

Going down the road one day last fall, I came by a beautiful blue grass pasture. The grass was standing almost knee-high, and in that pasture was a herd of short-horn cattle. I said to myself, "There is a man who is making money." As I went along the road towards the house and up towards the end of the pasture I saw a large cement tank. The farmer had a pipe from the tank to the well and a gasoline engine that pumped the water and filled the tank. The cattle waxed fat and made that man money. As I stopped to get a picture of this outfit, from the house came a gray-haired woman with a pail on her arm. She trudged her way 100 yards or more to the well, where there was an old barrel with a top, which she lifted, filled her pail with water and trudged back again to the house. Then I said, "I don't think as much of that man as I did before."

A little later I gave a talk in a rural church. One of the men invited me to visit his farm and see his alfalfa. When I reached the house, the woman came up and said, "Ah, Mr. Christie, but you did hit

my husband this afternoon; I thought you were talking about our pump all the time." "Where is your pump?" I asked. She replied, "It's way around behind the barn." So we tramped across the muddy lot, around behind the barn, and there was a windmill and force pump that pumped the water through the fence into a great cement tank in the yard, where the man had three carloads of cattle on feed. I said to the man, "That's fine, but why didn't you run the pipe the other way to the house, so your wife could save her steps and labor and time?" He replied, "I never thought of that."

Friends, that is the trouble; farmers have been so busy on their farms making money, buying lands, paying off the mortgages,

getting hold of property, buying binders, buying pure-bred stock and other good things that will help do the work a little easier, that they have forgotten about that soul in the house who is willing to sacrifice, willing to get along with almost nothing, in order that they might have a home.—Prof. G. I. Christie.

Sum Sayings

By Unkel Dudley

If yu would hev uthers respekt yu, yer must respekt yurself.

Klean klotthes are nise tu hev, but a klean karakter iz far betur.

Yu kan brake yure limb in a minit, but it will take munths tu heal it, so yu kan

blacken yure reputashun in an hour, but it wil take years tu remov the stain.

Litul snow flakes blok trains an stop trafik, so litul sins blok the soul's way an stop its progres heavenward.

Takin patunt medisun tu get well is like pourin water in er woodchuk's hole tu droun the woodchuk.

Wimen who skold an men who swear are neither ladies nor gentelmen.

He who livs only for himself is his own wurst enemy.

When klimbin a steep hill think ov the bright prospekt an enlargd view at the top, an yu wil klimb it easier.

The right kind ov religun tu get is tu get Jesus in yure soul.

The Only Car That Does Those Things Is Hudson Super-Six

The Super-Six is the only car that ever went 1819 miles in 24 hours.

It is the only car that ever went from San Francisco to New York and back in 10 days and 21 hours. In that one round trip it twice broke the ocean-to-ocean record.

At Pike's Peak, a Super-Six Special defeated 20 great rivals, all specially built for hill climbing. It made the best time in the world's greatest hill-climb.

It holds all the speed records for stock touring cars, and the records for quick acceleration.

Note What That Means

You say you don't want a racing car. We know you don't. You will never, perhaps, use half the power or speed of the Super-Six.

But mark that this motor is a small, light, simple Six. We have added no size or cylinders. We have taken a light Six and, by this invention, increased its efficiency 80 per cent. And solely by reducing friction, which destroys the motor and wastes its power.

We Did Just This

The Six-type motor had great limitations. Despite all perfections, much vibration still remained. And vibration causes friction.

Some engineers, including the Hudson, were testing Eights and Twelves. They felt that twin-type motors might solve the friction problem. The trend was away from Sixes.

Then Hudson engineers brought out this Super-Six invention. It is a Hudson invention, patented by Hudson. In this new-type Six they obtained all the efficiency and endur-

ance sought for in the multi-cylinder type and they did this without adding cylinders, complications or weight.

All in Endurance

All the Super-Six records—for speed, hill-climbing and long-distance—were won by this motor's endurance. They mean that motor wear and friction are reduced to almost nothing.

By excelling in these feats, it proved that this motor will outlast any other type.

That is what you want above everything else. You want less wasted power, less wear, less friction. That means, of course, supreme performance. But it also means supreme economy.

What You Can't Afford

Some men will say, "I can't afford a superb car like the Hudson."

But you can. All this beauty, luxury and superlative performance will cost you less than many a car without them.

The Super-Six invention, in all probability, doubles the life of a motor. It saves the power which was wasted in friction. And this year we add a new gasoline saver which saves a great deal more.

No other fine car gives such value as the Hudson. No other car has a motor which compares with this. A higher-quality car is impossible. Yet note how far the Hudson undersells many cars that it out-performs.

Go see and prove this car. It is now the largest-selling car above \$1200. And the saving shows in the Hudson price.



Phaeton, 7-passenger, \$1650
Cabriolet, 3-passenger, 1950
Touring Sedan . . . 2175

Limousine . . . 2925
(All prices f.o.b. Detroit)

Town Car . . . \$2925
Town Car Landaulet . . 3025
Limousine Landaulet . . 3025

HUDSON MOTOR CAR COMPANY, DETROIT, MICHIGAN

The "dollar-bill bug"

THAT'S what one wise fruit-grower calls San Jose Scale, because it eats so swiftly into profits. The San Jose isn't the only pest that can bite a big hole in a gold dollar—there's the codling moth, the canker worm, the apple scab, and a whole army of cut-worms, weevils, slugs, borers and other plagues besides. *Spraying is the only defense.*

The Deming 1917 Spraying Catalog (40 pages) will gladly be sent free to anyone interested in saving their crops. To those enclosing ten cents, a free copy of Howard Evans Weed's 64-page guide book, "Spraying for Profit," will also be mailed.

THE DEMING COMPANY
160 Depot St. Salem, Ohio

Over 1000 types and sizes of hand and power pumps for all uses

SAVE THE TREES

Kill San Jose Scale, Aphids, White Fly, etc., by spraying your trees with

GOOD'S CAUSTIC POTASH SOAPING

Sure death to tree pests. Contains nothing injurious to trees—fertilizes the soil. Used and endorsed by U. S. Dept. of Agriculture.

FREE—Our valuable book on Tree and Plant Diseases. Write for it today.
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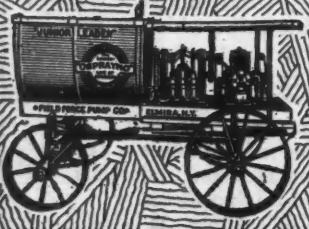
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Is Bridge-Grafting Profitable

Earle William Gage

Bridge-grafting is a comparatively new addition to horticultural science, and is just beginning to take on form as something that may later become a universal aid in fruit culture. Naturally, fruit growers are more interested in knowing whether or not this is practicable or profitable.

The United States Department of Agriculture, Bureau of Plant Industry, William A. Taylor, chief, report that the number of inquiries arriving regarding bridge-grafting is increasing, and as a result Farmers Bulletin 710, has been issued. This method is employed as a treatment of fruit trees, more especially apple, that have received injury during the dormant season by animals, such as mice or rabbits. Slight injuries may be cared for without great trouble, but thousands of trees have been impaired in the midst of a useful life, by being girdled by these bark-bitings. Therefore, grafting has been employed as a successful treatment, and is termed by the officials as the only real successful remedy.

Bridge-grafting is accomplished by use of scions or small limbs which connect the two portions of bark injured, and the word "bridge" best describes the system. This has been used satisfactorily with all types of fruit trees susceptible to propagation by grafting. In practice there is occasion to resort to this much more often with apple varieties, although in certain sections of western New York pear trees have also received attention. It is also proper for plums and cherries. Peaches are slow to graft, and to date shade trees have been unsuccessfully bridge-grafted.

The important steps to be taken in bridge-grafting are as follows: The wound is first cleansed and the bark along the edges of the injury neatly trimmed back to a healthy, growing tissue; a scion with beveled ends ready for insertion is then prepared and

waxed into position. A solution of bichloride of mercury, copper sulphate, or some other antiseptic is used for washing the injured section. Scions should be selected from wood of the previous season's growth. Either branches which grew the preceding year or water sprouts that are a year old may be used.

The important item is that the scions should be a little longer than the space to be bridged, thus allowing the middle section to slightly arch itself. The beveling should be done by a long, sloping cut, which will insure a thin wedged end, and the sharp ends should be inserted neatly under the bark. The larger the number of scions used the more certain will the success be, but if too many are inserted under the bark, this will permit air to get under the bark and will make the work unsuccessful.

It is important that the cambium of the scions exposed in the cuts at the ends be brought into intimate contact with the cambium that lies under the bark at the margins of the wounded area. Small, thin nails may be driven in, holding the two together, and withdrawn after the union has been developed.

Grafting wax should be used to cover the exposed margins of the scions, strips of waxed cloth, or some other covering used to insure the parts against drying out. Some fruitmen cover the entire wound with melted wax, after the scions have been put in place. Although early in the season is the best time for bridge-grafting, if dormant scions can be procured, the operation may be successfully performed at any time.

As with other things, so also with fruit trees—an ounce of prevention is worth a ton of cure—and the fruitman should aim to protect the tree growth from undue contact with enemies of all kinds. Those who make a practice of pasturing stock in the orchard, or where there are trees, should prepare protection for the trunks and limbs.

Kitchen's Wasteful

The total cost of food in this country cannot be even approximated, but eminent authorities place a dollar a day as a fair average for the food value of the American people. This means a cost of about \$5,200,000,000 each year. So eminent an authority as Doctor Wiley estimates that at least one-quarter of this is wasted. And this is entirely possible. Notice as you dine at restaurants how much untouched food goes back to the kitchen—not to be fed for some poorer mortal, but to go out in the garbage. It seems so perfectly natural for some people to merely play with their dinner, sending choice cuts of meats and fowls back to the garbage can, says Banker's Magazine. We waste more than we eat. If the Doctor is right, this means a food waste of \$1,300,000,000 a year and the pity is it does no one any good—not even the pigs, for they would thrive better on a less costly diet. One large country hotel a few years ago lost most of its herd of 300 hogs from feeding "swell swill." This food if conserved, would feed all the poor. It would build ten battleships. It would buy all the land in some states. It would pay off the national debt in a single year. It would run the government for twelve months.

It takes four years to raise a porter-house steak, and to send half of it back to the kitchen is an economic crime. If you waste a forest, soon the last tree will be cut. If you waste land it will soon be barren. If you waste time, you will never succeed. If you waste money, you will soon have no more to waste, but you can keep on wasting food until you eat no more, and wonder why you are poor. Better take inventory of what goes out in the garbage bucket and see how much you contribute towards this enormous sum, so big in its proportions that we fail to grasp its magnitude.

DON'T FAIL TO READ

"What To Plant For Profit" in our April Number. This article will tell you on the advice of some of the most successful fruit men in the country, what varieties are best suited for commercial orchards and why they are best.

The Owl and the Squirrel

By Albert E. Vassar

Said the squirrel to the owl, "How funny it seems

You only roam around at night,
And ne'er enjoy the sun's bright beams,
Nor lovely flowers so sweet and bright."

Said the owl to the squirrel, "O what do you know

Of sweetness of flowers and colors too?
You're in trees or mid the ferns in the wood,
And where do you get your flowers bright view?"

Said the squirrel in reply, "From the top of the trees

We see the country miles around,
And our eyes are bright, yet not so big,
And joys of life we've surely found."

Said the owl to the squirrel, "Hunters roam all day

And are forever looking out for you,
And will surely get you yet, they say,
And in a pot you'll make a stew."

"Get out," said the squirrel, "They must get us first,

And while you're sleeping yet some day,
You'll be brought to ground and see your worst,
Then stuffed to make some fine display."

Watch Your Copy

of
Green's Fruit Grower

IF you find a renewal blank between its pages it means that your subscription should be renewed at once. Fill in and mail the blank as soon as you find it, so that you will be sure to get every copy of the paper.



Tenant house on a fruit farm near Rochester, N. Y. on which is located one of our most productive orchards. At Green's Fruit Farm we found it profitable to have a number of houses, similar to the above, which are leased to our helpers at very low prices.

Spring Planting Time

It is hardly necessary that I should tell you that spring is the great time for planting, for all nature tells you this is true. Everything outdoors seems to be waking up and getting ready for a general jubilee and revival. Something tells you that within a few brief weeks the earth will be filled with blossoms and be covered with bright green grass and dandelions.

This is a season when mortals have an impulse to plant. They plant fruit trees because their memories go back to childhood when they gathered the ripe apples, pears, plums, cherries and grapes on the old homestead where they were born. They plant bulbs, rose bushes, flowering plants, the evergreen, the maple, the birch, for they have witnessed many places made beautiful by their presence. It is the duty of a publication like Green's Fruit Grower to induce people to plant. If after reading this issue and other issues you have no desire to make your home attractive by planting fruit trees, plants, vines and ornamentals, I as editor have not done my duty. But some will say, it will be so long before they come into bearing or so long before they blossom. This is the old objection to planting, but it is no valid objection. Roses often blossom the same year they are planted. The perennial phlox always blossoms profusely the first year planted. As has been so often said, these beautiful objects grow while we are sleeping. If we once get them planted we have shown our good intentions and in most cases are soon fully rewarded.

Winter the Time for Making Plans

When the snowbanks are piled up around the farm and the blizzards are beating the snowflakes against the window panes is a good time to sit down with a blank book, pen and ink before you and make plans for the coming season. Almost instinctively you have decided what fields to plant next spring, and whether to plant them with corn, potatoes, oats, peas, beans or barley, but it is well to study the plan now that you have ample time. Lay out upon a large page each field and note down there what crop you shall plant or sow upon it next spring. As you do this, incidentally the needs of each field will occur to you, therefore note with your pen that field No. 1 needs additional fertility in order to produce a full crop, and that being a long way from the buildings, commercial fertilizer should be used, and there are many reasons why this

fertilizer should be ordered at once. Note on other fields what is needed there. Possibly a tile drain should be placed there. If so, the tile can be drawn this winter and some of the ditching done, or possibly all of it if the winter should be open. Then as you glance over the other fields you will see one with a broken down fence or with a gate hanging on one hinge, or where a big tree has been blown over by the wind and needs to be cut up and drawn to the woodshed.

Possibly as you sit there by the window with the open book before you and the map of the farm spread out you will ask yourself whether you should not plant an orchard on that elevated site, lot No. 4, which you have ever considered a favorable place for an orchard of the apple, peach, pear, plum or cherry, or whether a little vineyard there would not be profitable, or a berry field. This planting of fruits upon your place may be just what is needed to interest your boy on the farm and to hold him there rather than to have him take his chances in the big cities.

Spraying Devices

It has come to be generally understood that everyone who has a farm or even a village or city lot must have some kind of spraying device. These devices are made to suit the convenience of all. If you have simply a city lot you need not buy an expensive spraying outfit. If you have simply a farm orchard of a few acres you need not spend a large sum for spraying machinery, but if you have a hundred acres of orcharding you will feel compelled to buy a sprayer with gasoline power.

Since you must have some spraying device do not delay in ordering it. This question will not forcibly come to your mind until you find the worms destroying the foliage of your currants, gooseberries or other plants. How much better to have the spray device on hand early in advance of the date when you desire to use it. This same suggestion applies to the supply of berry boxes, crates, to fertilizers, harness and farm tools generally, which should be bought in advance of the season when they are to be used. Do your buying early.—C. A. Green.

Another good man has fallen. On Saturday evening, February 17th, 1917, Clyde Ashley Waugh, Manager Editorial Department, Soil Improvement Committee of the National Fertilizer Association, passed away after a brief illness.

Good Things In This Issue

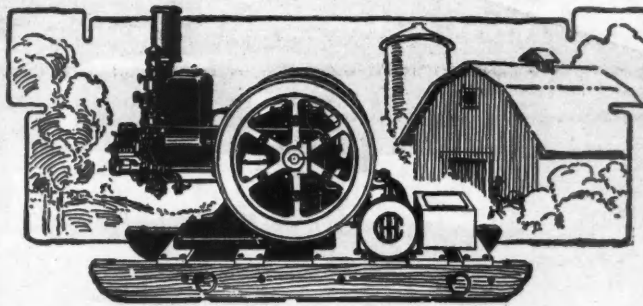
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What Have You Done?

Tell us in your own words of your success or failure in any part of fruit growing provided your experience will teach a lesson or help someone to success. If you have found a better way to grow strawberries, or pack peaches or spray an orchard or do any of a thousand things to be done on a fruit farm; or have found through loss or failure, ways that things should NOT be done.

We Will Pay You to Tell Us

If your story is suitable for us to publish we will send you a check at once at our regular rates. Address Experience Editor, care of Green's Fruit Grower, Rochester, N. Y.



Does Its Work for Little Money

WHEN buying an engine for any farm job you can't beat the Mogul engine for economy—no matter where you look or what price you pay. A Mogul gives you steady power at the lowest cost per day or per year of service—any way you figure it. It works on the cheapest engine fuel you can buy, common coal oil. It uses only just enough fuel to carry the load. It starts and runs on magneto—no batteries to buy or renew. Its oiler takes care of every bearing, and never forgets. It is as near automatic as an engine can be made and it handles all kinds of engine work.

The Mogul is made to do its work for little money—less than any cheap engine. Then, it will outlast two or three cheap engines. If you want steady reliable power at the lowest possible cost—and, of course, you do—buy a Mogul engine in any size from 1 to 50-H. P. If you don't know the local dealer who sells Mogul engines, write to us. We'll tell you where to find him and we'll send you our engine books.

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No. 17

SL ALLEN & CO Box 1107G Philadelphia

Making Concrete on the Farm

By F. H. SWEET

(Illustrations By Courtesy of Portland Cement Ass'n)

Many farmers are improving the walks around their home by making concrete to keep them out of the mud during the winter and wet spells of spring. Concrete cellars will take the dampness out of the house often and save a great deal of work to the housekeeper.

The essentials of good concrete may be briefly described as follows:

Concrete consists of Portland cement, sand, crushed rock or pebbles. The sand is termed the fine aggregate and the stone or pebbles coarse aggregate. The strength of the concrete depends upon two things. First, the quality of the materials, and second, the method and thoroughness of the mixing.

All Portland cement now manufactured is made to pass the standard specifications and tests of the American Society of Civil Engineers. Therefore, it is only necessary

and after 2 or 3 hours the layer of loam on top of the sand should not be more than 5 per cent in thickness. In other words, if the total height of the sand is 5 inches in the bottle, the layer of loam should not exceed 1/4-inch thick.

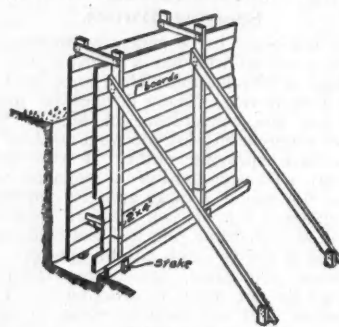
Stone or pebbles, which form the coarse aggregate of the concrete, may vary in size from 1/4-inch in diameter up to 1 and 1/2 inches for ordinary work. The stone should be graded in size, that is, there should be particles of all diameters from 1/4-inch to four or five times as large. It is essential that the stone be clean and free from dust and that the particles be hard and tough. Any soft or shaly rock will not give a strong concrete.

Many farmers have upon their premises banks of gravel, which they use in making concrete. If this material is clean it will be suitable for the purpose; but one precaution must be observed, namely, separating the sand from the pebbles by screening through a 1/4-inch screen. After this is done, the cement, sand and pebbles can be mixed in the proper proportions. Bank-run gravel should not be used without screening.

Where the concrete is not an important construction requiring great strength, it is sometimes the practice to use cinders in place of stone or pebbles. When cinders are used, however, it must be remembered that this does not mean ashes. By cinders is meant the hard-burned, boiler product. Household ashes are absolutely unsuited for use in cement.

The water used in mixing concrete should not contain an excessive amount of minerals, oils or alkalis. Any water fit for drinking purposes will be satisfactory for concrete work.

Between the particles of stone and sand

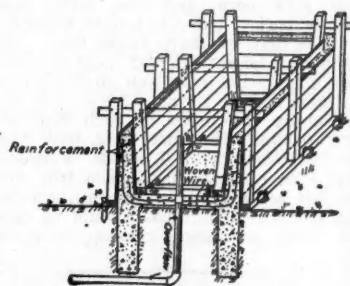


Wall Form

Wall form for use where ground is not sufficiently firm to act as one side of form. When this form is employed it is not necessary to make any effort to keep the earth wall vertical, as the space between earth and concrete will be filled in after wall is completed. Foundation walls are carried down three or four feet below ground level to prevent frost action. Forms are tied together at bottom with wire as shown in Fig. 6. The 2-inch by 4-inch uprights are spaced 24 inches apart, which is the proper distance for all small form work. For this class of forms 1-inch boards are heavy enough for sheathing, but for columns, side forms for feeding floors, etc., it is best to use 2-inch boards to prevent springing.

that a standard, well-known brand be purchased. The cement should be stored in a dry, well-ventilated place. If moisture should come in contact with the cement while it is stored and the cement "sets up" to a hard mass, such cement must not be used. When the bags are piled up the cement sometimes becomes lumpy, owing to pressure. Such lumps, however, can be easily crumbled with the hand or by a light blow from a shovel.

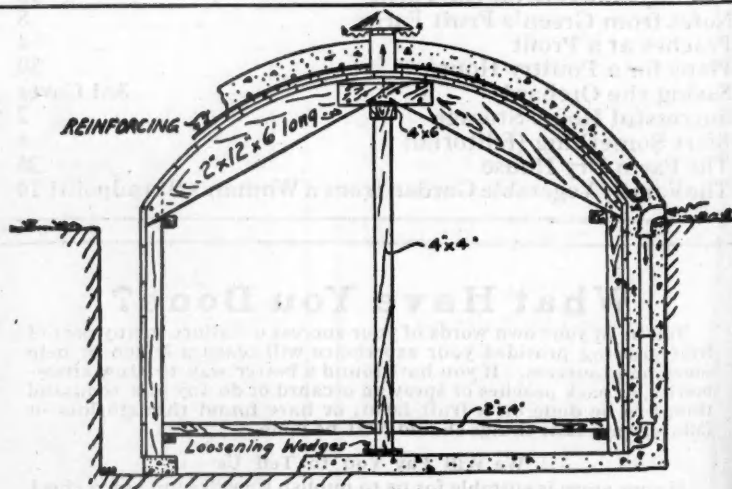
The best sand for use in concrete is that which is rather coarse. The largest particles should be not over 1/4-inch in diameter, graded uniformly in size of particles down to fine. The sand should be clean and free from loam or vegetable matter. The amount of these impurities in the sand can be determined by placing a quantity of sand and water in a tall glass bottle and shaking well. Allow the sand to settle,



Watering Tank

Small watering tanks above ground should have foundations as shown to prevent heaving by frost. Note how uprights are tied together at top across tank. Inlet and overflow pipes must be installed before placing concrete. Proper proportions for tanks are 1 part Portland cement to 2 parts sand to 4 parts clean gravel or crushed stone.

are small air spaces, which are termed voids. In order to secure a strong, dense concrete these holes or voids must be filled. It is intended that the cement shall fill the voids in the sand, and that the mixture of cement and sand shall fill the voids in the



Root Cellar Form

Root or storage cellars are usually built all or partly under ground. The form in the illustration is for a cellar with arched roof, but a flat roof can be substituted. An underground cellar can be used for the storage of potatoes, other vegetables, and fruit.

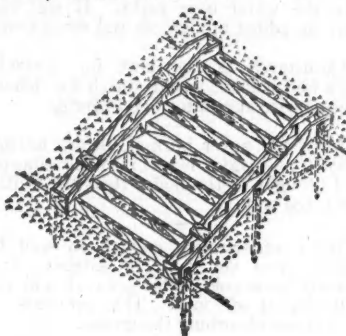
stone. Thus the whole mass is bound into a strong, dense, impermeable concrete. Wherever possible it makes for economy to use stone or pebbles in making concrete rather than using cement and sand alone. The resulting concrete is just as strong, and a saving of cement is effected. The following is an illustration.

When 1 part of Portland cement and 3 parts sand are used there will be needed 2 and 1/2 barrels of cement for each cubic yard of concrete. Made with 1 part cement, 2 parts sand, and 4 parts stone, there will be needed 1 and 1/2 barrels of Portland cement for each cubic yard of concrete. Thus a saving of 1 barrel of Portland cement for each cubic yard of concrete will be effected, an important economy.

When the cement and sand alone are used, the minimum amount of cement should not be less than 1 part Portland cement to 3 parts sand by volume. In other words, the proportion should be 1 bag of Portland cement to 3 cubic feet of sand. In proportioning it is convenient to remember that 1 bag of Portland cement is equal to 1 cubic foot. When stone or pebbles are used in the concrete the proportion for most work is 1 part Portland cement, 2 parts sand, and 4 parts stone or pebbles, which really means 1 bag of Portland cement, 2 cubic feet of sand, and 4 cubic feet of stone. For foundations and floors, or work requiring less strength, a proportion of 1 part cement, 2 and 1/2 parts sand and 5 parts stone or pebbles is satisfactory. For posts it is best to use 1 part cement, 1 and 1/2 parts sand, and 3 parts stone or pebbles.

In order that the concrete may be kept free from sticks, dirt and other impurities, a mixing board or platform should be provided. A convenient size for such a platform is 10 feet square. It should be built

merely consist of rakes, shovels, hoes, wheelbarrow and several water buckets. For most work the concrete should be mixed with sufficient water to make it mushy wet so that it is a jelly-like mass. In mixing do not make too much concrete at one time, otherwise part of it will begin to harden before it can be deposited. Concrete that has once commenced to set before placing in position should not be used, as its strength will be greatly reduced. The concrete should be deposited within 30 minutes after the mixing commences, and this should govern the size of the batch. In placing the concrete in the forms it should be well tamped and spaded. Spading consists of thrusting between the concrete and the form a thin board or paddle so that the stones in the concrete will be forced back, allowing the rich mortar to flow against the form, thus producing a smooth and even surface, free from air holes.



Step Form

The form illustrated is for steps on a terrace. The same form is used for steps in a cellar hatchway. The boards at the sides, by being carried up to the required height, can be used to build the side walls of the hatchway. Note trench to be filled with concrete at top and bottom. Where steps lead up to poultry house, corncrib, etc., the side forms should extend down to the ground so as to provide for wall at each side of the steps.

Clerks and the Millionaire

"Tip" in New York Press
Two young men met by chance in a Pine street eating house. "Do you lunch here often?" asked one. "Almost every day," said the other. "It's the best place for the price I know of. It's patronized by a fine class of people—bankers, members of the Stock Exchange, railroad men, lawyers. What are you going to eat?" "I guess I'll have a sirloin steak, a pint of claret, some potatoes, some asparagus and a pudding of some kind. A man on a salary can't afford a swell luncheon." "That's so; we've got to curb our appetites. All I want is a couple of veal cutlets breaded, some cauliflower, some fried onions, a kidney omelet and a bottle of ale. I can't afford to spend more than \$1.50 on a luncheon." In a corner sat a man of 60 years, worth \$40,000,000, going over the bill of fare from end to end, again and again, with knitted brows, trying to decide what he wanted. In a quarter of an hour he said to the waiter. "Bring me a roll, some butter and a cup of coffee."

Many spiders have poison fangs, but few are dangerous to human beings.



Europe's many tongues and consequent misunderstandings

The Fruits of Understanding

Throughout the vast area of this country prevails a common tongue. The whole of Europe hardly exceeds our territory, yet Europe has more than a score of nationalities and many different languages.

In the United States the telephone, as exemplified by Bell System, renders a matchless service in its mastery of distance and in encouraging the use of a universal language. This accomplishment is in spite of the great influx of population from every country in the world.

In Europe the independent countries, separated by barriers of language, and lacking efficient

telephone service, suffer from inadequate facilities for intercommunication.

We now talk from the Atlantic Coast to the Pacific, and eliminate more than three thousand miles. In Europe, contending with a babel of voices and unrelated telephone systems, a bare quarter of that distance has been bridged with difficulty.

The ideal of the Bell System has been day by day to extend its service in the interest of all telephone users. Its efforts have resulted in providing the facilities to unite cities and rural districts in true American democracy.



AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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One Policy One System Universal Service

SW Tuber-Tonic

Good for potatoes and bad for bugs

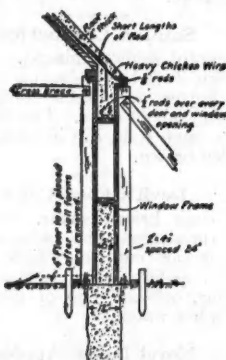
A three-in-one potato spray that kills insects, prevents blight and acts as a tonic to the plant.

Like all Sherwin-Williams Dry Powdered Insecticides, it is cheap to ship, easy to use, and cannot freeze.

Lime-Sulfur }
Arsenate of Lead } All in
Tuber-Tonic } Dry Powdered
Fungi-Bordo } Form

Send for our Spraying Literature
THE SHERWIN-WILLIAMS CO.

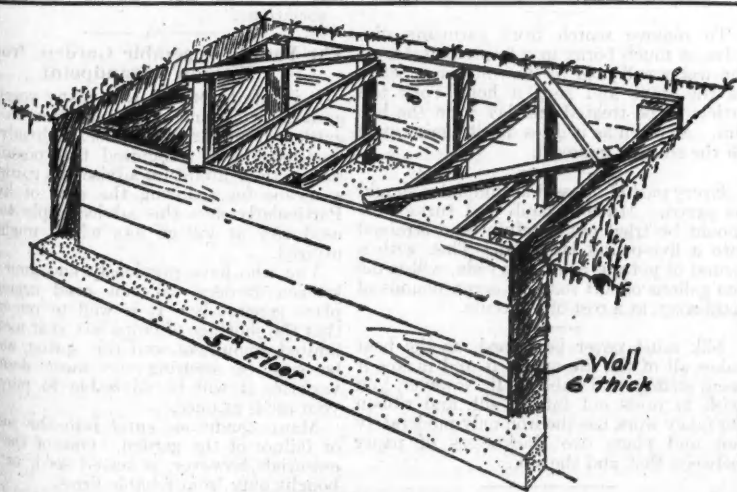
Insecticide and Fungicide Makers
675 Canal Road, Cleveland, O.



Form for Wall of Buildings

The wall section and form are for use in building such structures as barns, chicken-houses, smoke-houses, milk-houses, and, in fact, every type of house. The window-frames and door-frames are set in the fresh concrete. Where a concrete roof is not desired the wall may extend only to the eaves and bolts are embedded in the fresh concrete for bolting down the wooden roof plate. The floor is laid after the walls are completed.

with care, with joints well joined. There should also be provided bottomless boxes for measuring the sand and stone. It is convenient to make these boxes 2 cubic feet in capacity. The tools required for the mixing are at hand on any farm, and



Form for Manure Pit

These manure pit forms provide a pit below ground level. Pits are also built with one side sloping to form a concrete drive to insure easy loading of manure carts.

Woman's Dept.

It is the aim of this department to present practical articles regarding the Home and Personal Problems. The Editors welcome any suggestions, for changes or subjects which you would like discussed.

What I Would Be

I would be true, for there are those who trust me;
I would be pure, for there are those who care;
I would be strong, for there is much to suffer;
I would be brave, for there is much to dare.
I would be friend of all—the foe—the friendless;
I would be giving, and forget the gift;
I would be humble for I know my weakness;
I would look up—and laugh—and love—and lift.

—Howard Arnold Walter.

Your Clothes

Do your clothes express something more than fabrics and fashions? They should. It is a part of their purpose to express your personality and whether it be a cotton morning dress or an afternoon gown, your clothes may speak of something which you possess, which you yourself may never mention.

Colors should be very carefully chosen for no matter how costly the materials or how beautifully made, the effect will not be becoming if the colors do not harmonize with your coloring. It is not an easy matter to decide off-hand just which shades or tones are most becoming; but once you have taken the trouble to notice just the effect certain colors have on your eyes, hair, and particularly on your skin, you can soon decide which to avoid. After you have made this decision, stick to it. Wearing only the colors that intensify your good points is one of the secrets of being well dressed.

Next, too, and a very close second to color, are lines. By this is meant long or short waist, full or fitted and breadth or narrowness at waist and shoulders.

It is advisable to conform in a general way, to the dictates of fashion and one is less conspicuous for so doing and therefore more comfortable. There is, however, a wide choice of style and colors and one should never wear anything that is not becoming simply because it is the prevailing mode. Artistic expression of individuality is far more to be desired than the mere copying of an illustration in the latest fashion magazine.

Let us forget that clothes should be the background of personality, choose simplicity of line and soberness of color for the foundation, with elaborateness or vividness as the finishing touch.

BUNCH YOUR DISHWASHING

Seventy-five Minutes a Week Can be Saved by Doing Work Once a Day Instead of Thrice

Save up your soiled dishes and wash them only once a day. By so doing you can save something like an hour and a quarter a week. Eleven minutes per day was the actual time in a recent experiment, says Dr. H. Barnard, writing in Table Talk, the "National Food Magazine."

"Piles of dishes waiting to be washed three times a day, year in and year out, throw a damper over the finest ambitions of the housekeeper. . . . If only the drudgery of dishwashing could be disposed of once a day instead of morning, noon and night, kitchen-work would be in great demand than it is."

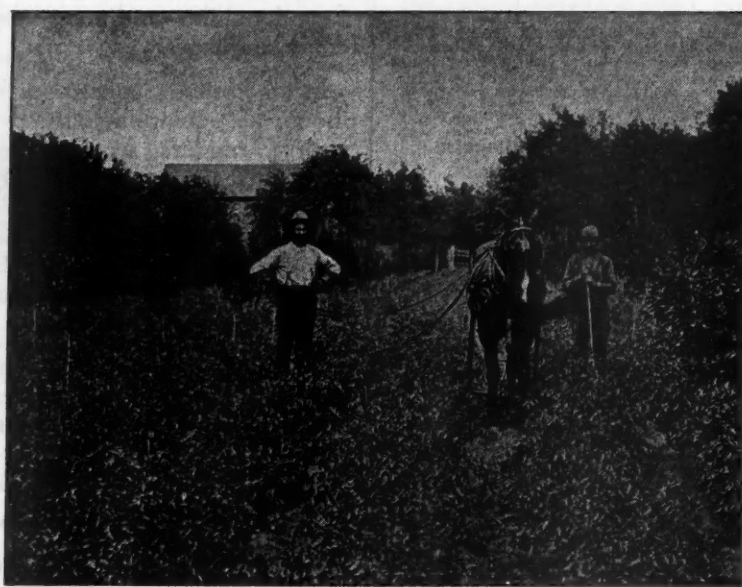
"The careful housekeeper will always resent the suggestion that once a day is often enough to wash dishes. She can not train herself to allow soiled plates and silverware to stack up from one meal to the next,

for she has been taught that such actions are the evidence of shiftless, slovenly housekeeping. As a matter of fact, along with many other notions which are fixed in the operation of the home, both time and energy are saved by cutting out two of the three daily dish-washing jobs. Listen to the experience of one housekeeper who actually dared study the homely work of washing dishes. One week she washed her dishes twenty-one times. The next week she washed dishes seven times. During the two weeks she planned her meals so that the same number of dishes would be used on each day. She found that while it took fifty-two minutes a day to wash her dishes three times a day, it took but forty-one minutes a day when she washed them but once.

THE GUEST ROOM

Comfort, Convenience and Taste Should Go Hand in Hand in Furnishing
New York Sun

Once upon a time the guest room of the home occupied a very small portion of the housekeeper's thoughts and the odds and ends not wanted elsewhere were sent there. Nowadays it is the room which is to be



A Productive Vegetable Garden Between Rows of Young Trees

furnished carefully, and cheer and hospitality are its chief assets. If possible it should have a southern aspect, though it is unwise to sacrifice the comfort of members of the household in order that the occasional guest should be comfortable.

In the drawer should be telegraph blanks, house paper, a box of elastic bands, baggage tags, a pad and pencil and two or three styles of pens. Time tables and a mail schedule are also convenient to have. A cracker jar, a thermos bottle and an individual breakfast set are desirable in the event of the guest's wanting a bite between meals. The main idea is comfort first, last and all the time, for the thing that endears a place in the memory will not be the color scheme or the wall paper or the lovely view, but the conveniences. These things lacking, no amount of artistic beauty in color or form will suffice to take their place.

Read the charge uttered by old Nokomis to Hiawatha as he was about to go on his search for a partner in life:

Bring not here an idle maiden,
Bring not here a useless woman,
Hands unskillful, feet unwilling;
Bring a wife with nimble fingers,
Heart and hand that move together,
Feet that run on willing errands.
The old lines have a practical bearing on life.

HOUSEHOLD NOTES

Rice requires only twice its bulk in boiling water, and will cook in half an hour.

To cleanse sinks and drains, pour copperas dissolved in boiling water through them.

By measuring dry things first, then the liquid, one cup will do for all, without washing.

Very thin batters, (or those containing sugar and eggs) require more fat on the griddle than the other requires.

Any batter is a "pour batter" until it is made so stiff that it breaks in the pouring and drops from the spoon. It is then a "drop batter."

If you serve boiled ham hot put it back into the water over night. It will then have an added tenderness and sweetness.

Cornstarch is the best for starching cuffs and collars; wheat starch for delicate dresses; rice starch for fine lingerie.

Milk will never burn if, before heating, a little cold water is put into the saucepan and brought to the boil. Heat the milk in the usual way.

When unfortunate enough to spill hot grease upon the floor or kitchen table, quickly pour cold water upon it and that will cool it at once. This prevents the wood from absorbing the grease.

Silk stockings should never be ironed.

TRIED RECIPES

Oyster and Grape Fruit Salad

Parboil one pint of oysters, drain and remove tough muscles; add the pulp from three grape-fruit. Mix pulp with oysters. Serve in sections of grape-fruit with the following dressing: Six tablespoonfuls of tomato catsup, four tablespoonfuls grape fruit-juice, one tablespoonful Worcestershire sauce, a few drops of tabasco sauce and salt to taste. Mix thoroughly.

Cheese Fondue

One cup fresh bread crumbs beaten with one cup milk, stirring until thickened. Add two cups mild American cheese, and when of a stringy consistency pour in slowly two beaten eggs, stirring continually. A teaspoonful salt and a little red pepper for seasoning. Serve on crackers or toast.

Cranberry and Raisin Pie

One cup of cranberries, two-thirds of a cup of raisins seeded. Chop both together; one cup of water, one cup of sugar, two tablespoonfuls of flour, one teaspoonful of vanilla, one tablespoonful of butter. Fill the crust, cover and bake.

Rice Fritters

Beat two eggs, add one cup of milk, one-half cup of boiled rice and a saltspoon of salt. Sift two cups of flour with one level teaspoon of baking powder, and add to the first mixture. Fry in spoonfuls in deep hot fat. Serve with the following sauce: Sauce for Fritters: Cook one cup of sugar, one and one-half cups of hot water and an inch piece of stick cinnamon together, until the syrup shows signs of thickening. Take out the cinnamon and add a teaspoon of lemon juice; cook a few minutes more.

Salmon Croquettes

One cupful salmon minced. Add a big cupful fine bread crumbs, one tablespoon melted butter, four tablespoons of milk, pepper and salt to taste. Two beaten eggs. Make in small rolls, dip in beaten egg and fry golden brown.

Devil's Food Cake

Two cups brown sugar, one-half cup butter, three eggs, one heaping teaspoon soda, one-half cup sour milk or cream, one-half cup hot water, two and one-half cups flour, one-half cup of chocolate dissolved in hot water.

Novel Baked Apples

Peel some sound cooking apples of medium size, take out the core and roughen the outside of the fruit with a fork. Now roll the apples in coarse brown sugar, stand them in a large buttered pie dish, fill the hole in each apple with any red preserve and bake slowly until tender. Baste the fruit while cooking with the juice that runs from it. When done allow the fruit to get cold before removing from dish, serve with cream.

"You may build more splendid habitations, Fill our rooms with paintings and with sculptures, But we cannot buy with gold the old associations."

The Family Vegetable Garden, from a Woman's Standpoint

It is safe to predict that many vegetable gardens will come into existence on new garden ground this summer. Already the seedsmen have recognized this possibility and in their literature advise the garden as a means for reducing the cost of living. Particularly does this advice apply to unused city or village lots which might be utilized.

You who have previously had your own kitchen gardens will not need urging to plant generously. It is well to remember that the shortage of crops last year means a limited amount of seed this spring, and to be sure of securing the most desirable varieties it will be advisable to purchase your seeds at once.

Many conditions enter into the success or failure of the garden. One of the first essentials, however, is tested seed, or seed bought only from reliable firms.

For various reasons the varieties grown by market gardeners are not always the best to choose for the home garden, and

(Continued on Page 27)





CATALOGUE NOTICE

Send 10c in silver or stamps for our Up-to-date SPRING & SUMMER 1917 CATALOGUE, containing 500 designs of Ladies', Misses' and Children's Patterns, a CONCISE and COMPREHENSIVE ARTICLE ON DRESSMAKING, ALSO SOME POINTS FOR THE NEEDLE (illustrating 30 of the various, simple stitches), all valuable hints to the home dressmaker.

1604—Ladies' Apron with or without Belt. Cut in 4 sizes: Small, Medium and Large. It requires 1 1/4 yards of 36-inch material for a Medium size. Price, 10 cents.

1607—Child's Dress. Cut in 5 sizes: 6 months, 1, 2, 3 and 4 years. It requires 2 1/2 yards of 36-inch material for a 2-year size. Price, 10 cents.

1608—Ladies' Four-Piece Skirt (in Raised Waistline). Cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. It requires 3 3/8 yards of 44-inch material for a 24-inch size. The skirt measures about 3 yards at the foot. Price, 10 cents.

1609—Ladies' House or Porch Dress. Cut in 7 sizes: 32, 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 5 1/2 yards of 44-inch material for a 36-inch size. The skirt measures about 3 1/4 yards at the foot. Price, 10 cents.

1610—Night Dress for Ladies and Misses. Cut in 3 sizes: For Misses—16, 18 and 20 years, and in 6 sizes for Ladies' 36, 38, 40, 42, 44 and 46 inches bust measure. It will require 6 3/8 yards of 36-inch material for an 18-year size, or 5 5/8 yards for a 36-inch size. Price, 10 cents.

1611—Girls' One-Piece Dress. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. It requires 3 1/2 yards of 36-inch material for a 6-year size. Price, 10 cents.

1612—Ladies' Shirtwaist, with or without Yoke. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 3 3/8 yards of 36-inch material for a 36-inch size. Price, 10 cents.

1613—Ladies' Costume. Waist 1994 cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure.

Skirt 1981 cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measure. It requires 3 3/4 yards of double-width material for a 36-inch size, for the entire dress. The skirt measures about 2 7/8 yards at the foot. Two separate patterns, 10 cents FOR EACH pattern.

Order patterns by number and give size in inches. Address Green's Fruit Grower Co., Rochester, N. Y.

Uses of Salt

The number of things besides seasoning for which common salt can be used is astonishing.

Salt and water make a good gargle for a sore throat and an emetic in cases of poisoning.

It is a "mordant" for many colors, especially black, and should be used in washing black dress goods, stockings, etc., to keep from fading.

There is no better skin stimulant than a brisk rubbing with salt and water.

Wet salt applied to a bee sting will quickly give relief.

Soap, starch and salt, should be rubbed into spots of mildew on cloth, which can then be restored by placing in the sun for an hour or two.

Salt is a splendid polisher for brass; mixed with vinegar it is a fine polish for mica stove windows; with lemon or cream of tartar it will remove rust from iron or steel.

It aids other solvents, such as benzine, ammonia, or alcohol, in removing grease spots and gives a brilliant white light if a little is dissolved in the kerosene.—D. H., in "The Home."

Hard Soap

Three five-pound pails of clarified and strained grease put onto the back part of the range that it may melt slowly. Three one-pound cans of potash put into a large stone bowl; upon this pour three quarts of cold water, add three tablespoonfuls of powdered borax, one-half cup of ammonia, one-half cup of soda dissolved in equal quantity of hot water, two tablespoonfuls of granulated sugar dissolved in cold water. Stir with a wooden stick until the potash is dissolved, then let it stand until cold.

When the fat is melted turn it into the potash. It must not be hot when added to the potash, but so cool that it will hardly run when poured. Pour into the potash in a thin stream, stirring all the time. When all has been added continue stirring for about ten minutes, when the soap should begin to look thick and rosy. At this stage pour it into a paper-lined box which has been greased, having it about four inches deep. Let it stand a few hours; then cut into bars and then into pieces convenient to use. It should not be removed from the box for at least two days. It will be hard and white. I do not know the originator of this recipe, but have found it good.

When We Are Gone

Tennyson's "In Memoriam."

Unwatched the garden bough shall sway,
The tender blossoms flutter down;
Unloved, that beech will gather brown,
This maple burns itself away.

Uncared for, gird the windy grove,
And flood the haunts of fern and crake,
The sailing moon in creek and cove;

Till from the garden and the wild

A fresh association blow,

And year by year the landscape grow

Familiar to the stranger's child;

As year by year the laborer tills

His wonted glebe, or lops the glades;

And year by year our memory fades

From all the circle of the hills.

"My husband may be big and fat,"

Said little Mrs. Nugg;

"But he's so tender-hearted that

He cannot beat a rug."

—Cincinnati Inquirer.

Save the Cherry Stones

Every one who has felt the scarcity of fats and oil in a disagreeable way on his own body, as we all have, will not permit the pits of fruits to be wasted. Ten cherry stones yield enough fat for soap to wash one's hands and face; one hundred cherry stones enough oil for a goodly portion of salad. The Red Cross and schools are gathering well-washed and dried pits of peaches, apricots, plums and prunes. The actual cash value of this nation-wide collection is turned over to charitable pur-

poses. Therefore, collect your fruit stones. Allow nothing to be wasted.

The above communication of the German war nutrition department to the public tells a whole story without further comment.—New York "Mail."

And it Came Back

A friend told me, apropos of rummage sales, that she had one old-fashioned brass andiron that had come down to her from some ancestral home, but in the flight of time its mate had disappeared. As one andiron was not really useful, she put it up in her attic, hoping that some day she might find another to match it.

Years rolled on, but her andiron remained unmated. One spring she decided to send it to the town rummage sale and get rid of it. On the day of this sale her husband returned home with a parcel under his arm, saying, in a tone of rejoicing: "I stopped in at that rummage sale just out of curiosity, and it was well I did, for I found an exact mate for your old andiron, and here it is."—Philadelphia "Ledger."

Lincoln's Rules For Living

"Do not worry, eat three square meals a day, say your prayers, be courteous to your creditors, keep your digestion good, steer clear of biliousness, exercise, go slow and go easy. Maybe there are other things that your special case requires to make you happy, but, my friend, these I reckon will give you a good lift."

SILK Wonderful Bargains 4-Pound Bundles of beautiful Silk Remnants for fancy work, quilts, portieres, pillows, etc. Send 10 cents for big package of large lovely pieces. Agents wanted to sell silk, velvet and other remnants. **UNION S. WORKS, 251 Factory St., Greenville, N. Y.**

"ROUGH ON RATS" Don't Die in the House. Unbeatable Exterminator. Kills Rats, Mice, Gophers, Ground Squirrels, Chipmunks, Weasels, Skunks, Foxes, Hawks, etc. The Recognized Standard Exterminator at Drug & Country Stores. Economy Sizes 25c, 50c, Small 15c. Used the World Over. Used by U. S. Gov't. Rough on Rats Never Fails. Refuse ALL Substitutes.

PARKER'S HAIR BALM
A toilet preparation of merit. Helps to eradicate dandruff. For Restoring Color and Beauty to Gray and Faded Hair. 50c. and \$1.00 at druggists.

GREGORY'S HONEST SEEDS

1917 CATALOG—FREE!
The national seed shortage has not affected our stock complete as ever! And our 1917 Catalog is more attractive, more helpful, and bigger than ever before. You need it to make best selections—write us!

SPECIAL QUALITY OFFER 10c
Early Flowering Cosmos, finest mixed, daintiest colors; Giant Branching Aster, superb mixture, beautiful shades; Heddewig's Pink, delicate markings; Candytuft, mixed varieties; Cornflower—flowered; Foxglove, double-tricolored, mixed. Package of each with our 1917 Catalog. Sent postpaid—For 10c! Send today!

J. J. H. GREGORY & SON
506 Elm St., Northbrook, Mass.



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Put a Kalamazoo in your home on our 30 days' trial plan. Let us show you what Kalamazoo stove quality is and how to save money. Your money promptly returned if not satisfied. 300,000 owners now recommend Kalamazoo. Let us refer you to some near you.

FREIGHT PREPAID

A Kalamazoo Direct to You

Quick Shipment

Write for our catalog and see color illustrations of newest style ranges—new features, white enamel splasher backs, etc. Highest quality at wholesale factory prices. We pay freight and make quick shipment. Ask for Catalog No. 316.

KALAMAZOO STOVE CO., INC., Kalamazoo, Mich. Stoves, Ranges, Gas Ranges, Furnaces, White Enamel Metal Kitchen Cabinets and Tables; 3 catalogs—please say which you want.

White Clothes—Less Scrubbing

20 Mule Team Borax will take a mighty lot of hard work off your shoulders on wash day. This Borax softens the water—it helps the soap neutralize and drive out the dirt—it saves scrubbing and it makes your clothes snowy white.

20 MULE TEAM BORAX

will cut the grease and put a fine polish on your china and glassware. When you take a bath, sprinkle 20 Mule Team Borax in the water to cleanse the pores, refresh the skin and destroy perspiration odors. Other uses on package.

20 Mule Team Borax Soap Chips

Soap in chip form. Saves you soap cutting. Blended in the right proportions, one part Borax to three parts of pure soap. Not a substitute for Borax but a time, labor and money saver that will pay you to use every wash day. See the picture of the famous 20 Mules on each of the above packages.



Sold by all dealers.

Green's Trees

Northern Grown at Rochester

To the farmer or orchardist who wants hardy, vigorous-growing, true-to-name fruit trees, Green's Trees offer the greatest value. Here's the reason: Besides being absolutely dependable, Green's stock is sold *direct to you*. That means that you do not have an agent to pay. We save you the agents' profits.

Plant Quality Trees

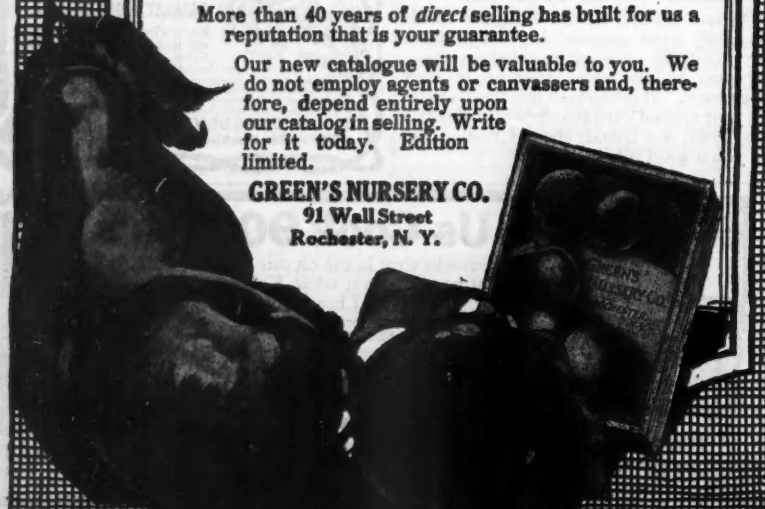
a selected list of Green's true-to-name fruit trees. This list includes a big supply of apple and peach trees, pear, plum, quince and cherry trees. Grapevines, currants, ornamental trees, roses, plants, best new fruits, etc. No matter whether it's for the orchard or garden, Green's stock will satisfy you every time.

More than 40 years of *direct* selling has built for us a reputation that is your guarantee.

Our new catalogue will be valuable to you. We do not employ agents or canvassers and, therefore, depend entirely upon our catalog in selling. Write for it today. Edition limited.

GREEN'S NURSERY CO.

91 Wall Street
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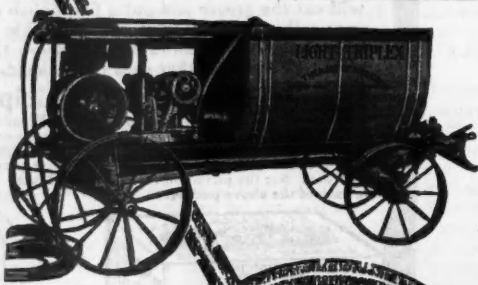


Hardie Joins Them Together

A big capacity spray pump of unfailing reliability and construction, a high duty engine that gives steady, sure power—here is the successful Hardie combination based on 17 years' experience making spray rigs. You can rely on Hardie sprayers to protect your orchards, insure your crops and help you produce a higher grade of fruit. Send for catalog today.

The Simplest Pump

To appreciate it you should see it. It's noted for its freedom from complicated devices, its compactness and accessibility—which means long life and low upkeep cost—pressure regulator an integral part of pump, threadless valve cages and Manganese steel crankshaft, and many other important features you should have in a sprayer.

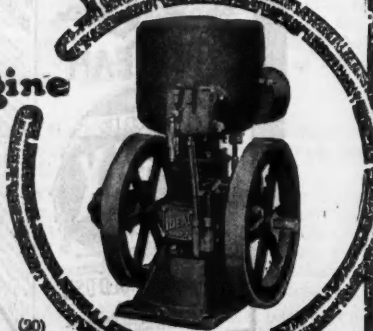


The Simplest Engine

What good is all the rest of the spray rig without the right engine—not much. You will find the IDEAL as designed and built by the Ideal Engine Company with Mr. H. E. Olds at its head, the most simply and reliably constructed engine obtainable. Big valves, large oblong cooling tank, latest type of carburetor delivers a maximum power with long service and low upkeep. The engine that has made good at the hard jobs—made good on jobs where delays and shut down could not be tolerated.

The Hardie Mfg. Company

13 Hardie Bldg., Hudson, Mich.
Branches in Portland, Ore.; San Francisco, Cal.;
Kansas City, Mo.; Hagerstown, Md.; Brockport, N.Y.;
Bentonville, Ark.



Home Planting of Vines, Shrubs and Flowers

By THE EDITOR

Recently, the Editor solicited letters from subscribers telling in what way Green's Fruit Grower might be made more acceptable to them, or on what subjects they wished more information. We were surprised to receive so many letters asking for suggestions or information on the planting of shrubs and trees, and yet we have realized that for the past five or ten years there has been a growing interest in the planting of ornamental vines, shrubs and trees. It looks as though the people of this vast and wealthy country were just waking up to the importance of such planting. We hope in the future to give more attention to these important subjects.

The house receives much attention from the homemaker, no matter where it may be located. Great attention is paid to the design of the house in order that it may be attractive and suitable to the location. Many will claim that in establishing a new home, the house is the one item of particular attention above all other items. It is certainly important that the house should be well built and well arranged, and yet a rural village or city home may be marvelously attractive where the house is simply a cottage, inexpensive and even lacking in architectural beauty.

Every time I drive to Green's Fruit Farm I pass a farm home that is particularly attractive. The house is plain, not at all decorative or conspicuous. The grounds around the house are also arranged with simplicity. There is a border of trees on the west line sheltering the house. In front of these trees are shrubs, circling around the corners and in waving lines throughout, and in front of these an occasional bed of flowers. To the east there is a driveway leading to the house and barn. The rest of the place is entirely devoted to lawn, which is well kept. There are vines climbing up the porches. It is evident, that there is no attempt at display, and yet this rural home has great attractions for me, indicating that it is not necessary to go to great expense in order to have an attractive home.

If you are looking for a plan for planting shrubs, flowers and trees I advise that you drive around your nearest city or village, taking particular notice of home grounds that please you in the way they are laid out, arranged and planted. Have with you a pencil and paper pad. When you find a place that meets your views make a rough detail outline of the layout, the roadway, the walk, the borders, the lawn and other interesting features.

The landscape gardener, the man who lays out plans for beautifying the home grounds, first of all has his attention marked upon the place where his unobstructed lawn is to be left. On this lawn no shrub or vine or flower-bed should be placed. It should be an open space of grass in smooth condition suitable for mowing with a lawn mower. After it has been decided where the lawn is to be, and it should be a liberal

space, our landscape gardener will construct his border on irregular lines to the westward or windy side. He may plant on the outskirts of this border the elm, beech, maple or other trees, not in a straight line but as they would naturally grow in the woodland. Then he groups his high growing shrubs in front of these in regular planting, then the low growing shrubs, and lastly the flowers as I have before stated.

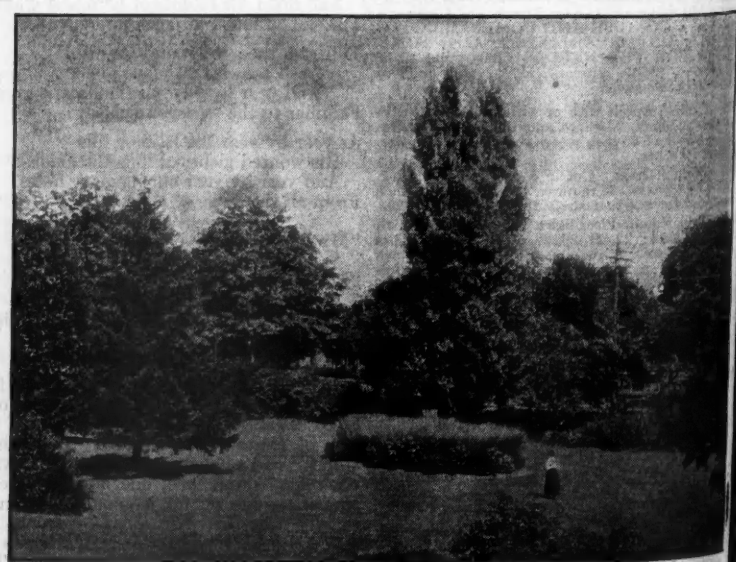
The most westerly part of the line is of necessity a straight line. If the front of this border is a straight line also you have an effect of stiffness which is not desirable, therefore the waving line along the shrubbery in front of this western barrier, which may be more widely extended at either end in the form of a curve.

No one can tell precisely how your home grounds should be laid out or planted until they are inspected. All the writer can do is to try to give you general ideas. Possibly, the rear should be planted the same as the western border and possibly the eastern border, but it is not advisable to shut up all views of distant vistas. There must be loopholes through the trees and shrubbery to view the setting or the rising sun and the landscapes on either side.

The simple planting of shrubs and trees is an easy matter. No one should have any difficulty in transplanting if they do it at the proper season when the soil is not too wet or too dry. I prefer April, May and June for transplanting. Since the planting must be done in sod do not fail to remove the sod for a distance of two or three feet in preparing the place for a large shrub or tree. The sod thus removed may be used to advantage, after the shrub or tree is planted and the roots are covered, by turning the sod upside down on the surface of the ground around the shrub, vine or tree. The grass may be prevented from taking root by stirring it occasionally during the summer. It acts as a mulch and keeps the ground cool and moist. Where it is possible the border should be plowed or spaded and put in fine tilt before planting and kept free from weeds and grass a year or two at least. Do not forget the vines that should clamber over the pillars and eaves of your porches and the low growing shrubs that may be planted around the foundation walls of your house.

Visions begin at home. Someone has said: "Show me a good farm centered around a happy farm home and I know that the owner has not only seen visions but has lived them."

While the yard around the home is buried beneath snow, and the trees and shrubs except evergreens, are bare, is a good time to dream about the plan for a more cheerful scheme of planting. Where to put in shrubs, where to make new flower beds, where to plant vines, or make a walk.



A Well Planted Home Yard

Making and Managing a Hotbed

By J. S. UNDERWOOD

In making a hot bed the first step is to choose a situation on the south side of a building or some other place so the cold winds from the north will be broken and all the sunshine possible will be obtained. After deciding on the site the frame should be made. A simple frame may be made out of two-inch planks. It should be constructed in such a manner that it can be raised if necessary should the plants get too close to the glass. The frame should at least be six inches higher at the back than at the front in order that the rain will run off readily and that the plants get more sunshine. The sashes generally used are three by six feet. The most satisfactory material for use in hotbed sash is double thick second quality glass. Sashes composed of this material suffer comparatively little breakage.

A hotbed may be made either above or below ground. If above ground it may be made in any situation where water is not likely to lie. The one below ground is usually preferable if it is made where the land is high and well drained. To make a hotbed below ground the soil should be taken out to a depth of about two feet and about three feet wider than the frame so that there will be room for banking. The banking is a very important part of the construction of a hotbed as the conservation of heat in the bed depends very much upon it.

The best kind of manure to use is horse manure and it should be quite fresh, not old and rotten and not already heated. It should be piled near where the hotbed is to be and when it begins to heat it should be turned to make it of more uniform consistency. Five or six days after turning it should be quite hot and ready for use.

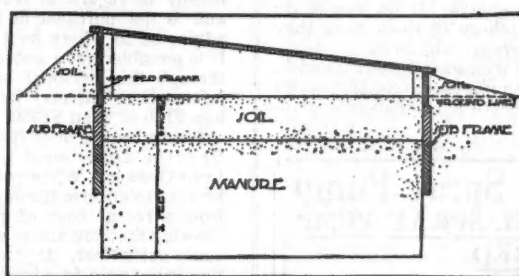
Starting at one end of the bed the manure is shaken in from a fork so that the long and short manure may be well mixed. When one layer is made it should be tramped well and then another layer started and so on, tramping each layer well until the manure is the required depth all over the bed. After the manure has been put in, the frame should be placed on and then from four to

about six inches more manure put in and banked well around the sides of the frame, both inside and out. Outside the manure should be banked to the top of the frame and from 12 to 15 inches in width. The bed is now ready for the sash. The frame should be so constructed that the sash will fit snugly. Shelters made of one-inch lumber the same size as the sash are useful for covering the sash as they help to conserve the heat in cold weather.

In two or three days the sash should be removed, the manure given a tramp all over, making it level where necessary, and

day. One should not be in a hurry to sow the seed for if the temperature of the bed is too high the results will not be satisfactory. When the bed has reached the right temperature the soil should be spaded over a couple of times and the surface levelled and made fine with the rake.

The bed is now ready for the reception of the seed. The seed is usually sown in rows about four inches apart and about the same depth as seed sown outside. When the young plants come up the frame should be kept sufficiently aired by raising the back of the sash to prevent the plants from getting weakly or spindly, when they are apt to damp off. Care should be taken to prevent their being chilled or frozen. The soil must be watered when necessary



then the soil put on. To get the best results the soil should be of a rich character so that it will not bake. The soil should be from five to six inches in depth over the manure and it is better to have it a little deep than too shallow. When the soil is put in it should come near the top of the frame at the lower side as the manure will sink considerably and the nearer the plants are to the glass later on the stockier they will be.

In five or six days the hotbed will be ready for the seed but it is necessary to wait until the manure has cooled a little and the temperature has fallen to between 80 and 90 degrees F. During this time when it is hottest some of the heat may be allowed to escape by raising the sash a little every

care being taken not to overdo this as the plants would then be likely to damp off. As soon as the plants are large enough they should be transferred from the hotbed to a cold frame and "hardened" before setting in the open ground.

Watt's Cradle Hymn

Hush my babe, lie still and slumber,
Holy angels guard thy bed,
Heav'nly blessings without number,
Gently falling on thy head.
How much better thou'rt attended
Than the Son of God could be,
When from heaven He descended,
And became a child like thee!

Spraying for Peach Leaf Curl Must be Done in Winter

During last summer the College of Agriculture at Columbia received a good many inquiries concerning a disease which was affecting the leaves of the peach trees. Samples of this disease, examined by Dr. J. C. Whitten, Professor of Horticulture, showed that the trouble was leaf curl. Observations on the part of the men doing extension work from the department of horticulture showed also that in a few sections of the state leaf curl was sufficiently abundant to do considerable injury to peach trees.

Peach leaf curl first makes its appearance shortly after the blossoming season of the peach. The disease is caused by a fungus which grows in the leaves. The affected part of the leaf has a thickened, puffed appearance that is more or less curled or wrinkled. If the weather is cool particularly, a reddish color is likely to occur along the border of some of these puffed and thickened areas. Injury to the leaves is likely to continue until some time in June when the diseased portions, for the most part, turn black, soft and badly infected leaves drop.

It is not feasible to check this leaf curl during the summer, once it has made its appearance on the leaves. To prevent its re-appearance the coming spring, the tree should be sprayed properly during the dormant season this winter or in early spring. Lime-sulphur is the spray most commonly used and if properly applied will entirely prevent leaf curl.

In sections where San Jose scale exists, the same spraying which should be done for the scale will also prevent leaf curl. This spray consists of 1 part commercial lime-sulphur to 8 parts water. For San Jose scale and for leaf curl combined it may be applied to the trees in early winter after they have become thoroughly dormant or in early spring just before the buds of the tree start into growth. If no San Jose scale is present in the orchard and leaf curl alone is to be sprayed for, the lime-sulphur may be diluted to 1 part of the lime-sulphur to 15 gallons of water and put on in early spring shortly before the trees start growth.

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Letters From Our Readers

"Prudent questioning is the half of knowledge."—Proverb

Caring for the Young Orchard

Will you kindly answer the following questions:

1. What sprays do you recommend for young trees four years old?
2. The trees are set in sod. Should the straw mulch be removed in spring time so I can cultivate around the trees?
3. Can the wood veneer tree protectors be left on the trees in summer time?
4. Is vetch, rye or clover good to sow around the trees in August?—T. E., Me.

1. Question too indefinite. Many young trees require no sprays. If no insects are feeding on the foliage of these trees they may need no spray whatever.
2. No, do not withdraw the straw mulch. As the summer progresses mix the mulch with the soil beneath it by shallow cultivation.

Our Personal Service Department

Green's Fruit Grower has remarkable facilities for doing personal service for subscribers. Any person who is a paid in advance subscriber for Green's Fruit Grower and writes us enclosing a two cent stamp, will get a prompt reply, no matter what the subject is, but we assume that questions will be mainly in regard to fruit growing and to the purchase of lands and advice as to where best to locate. It is possible that a subscriber may through this personal service get information that may be worth to him \$100 or even \$1000.

Please bear in mind this Personal Service Department of Green's Fruit Grower. When you write us be sure to enclose the address label from a recent copy of your paper showing that you are a paid in advance subscriber. If your subscription is not paid in advance, send a dollar with your question, to renew your subscription for three years. Address Personal Service Department, care of Green's Fruit Grower, Rochester, N. Y.

3. I see no harm in allowing the veneer to remain around the trunk of the tree except that insects might harbor there.

4. Yes, these are all good cover crops. Rye and buckwheat are the cover crops most easy to produce, the rye sown in September, the buckwheat any time from April to September first.

Berries in a Peach Orchard

1. I have more than 600 peach trees four years old. Nearly all my land is covered by this orchard. I am financially in need of all my land will yield. Can I intercrop with raspberries and blackberries successfully?

2. For two years I cultivated my orchard, but now it is sodded over. If I should dig square holes in the sod 18 inches across and 4 feet apart through the orchard and set raspberries and blackberries, filling the hole with barnyard manure, would the plants do well?

3. If I cannot sell them all here green, can I dry them?

4. If dried, how much will the green berry dry away? Will three quarts dry into one?

5. Can the berries be dried in the sun on canvas? I have no artificial means of drying, or would this be too slow a process?

6. What is the ordinary price of green and dried blackberries and raspberries to the grower?

7. Should red and black raspberries and blackberries be reset?—G. B. Mich.

1. Peach trees planted four years ago should have entire possession of the soil. Their roots soon extend over the whole surface. The raspberries and blackberries would do much better elsewhere. If you had planted the small fruits at the same time you planted the fruit trees you would have succeeded much better than to plant them there now.

2. You could not succeed as you suggest. No peach orchard should be allowed to go uncultivated or be left in sod. No small plants would thrive well in the holes in the sod such as you suggest.

3. I have not known of successful attempts to dry peaches in the eastern or middle states, though it is a success in California. If you refer to the raspberries, black cap raspberries can be evaporated with profit but not red or purple raspberries.

4. A quart of black raspberries dried would not measure or weigh one-fourth as much as when green, or possibly one-tenth as much.

5. Yes, but they would have to be continually watched. I would not favor it.

6. The average price of fresh picked berries might be guessed at as follows: blackberries 10 to 20 cents per quart, black raspberries 7 to 12 cents per quart.

7. Yes, when the plantation shows signs of weakening in growth or yield there is an indication that a new plantation should be started, leaving the old plantation to yield what it may so long as it produces salable fruit in sufficient quantities.

All Shrubs, Berry Plants or Trees not Pruned Alike

A reader asks for advice about pruning blackberry canes this winter. He has planted the rows too closely. The rows are only 6 or 7 feet apart, whereas he finds they grow so vigorously that the rows should be 8 feet apart. He asks if there will be any injury or loss by cutting back one-half the lengths of the young canes this winter.

Reply: My answer is that there would be a serious loss of fruit by cutting off the new canes this winter or next spring, for the reason that on the blackberry more particularly than on any other berry bush the principal amount of fruit is produced on the ends of the canes, and since you would remove the ends of the canes, you would remove nearly all of the fruit crop of the coming season. If these plants were the red raspberry or the black raspberry, cutting back the canes would not be so serious. After the blackberry bushes have stopped fruiting in the summer they should be pruned back to 3 feet.

Here we have evidence that one should have specific information as regards the habits and peculiarities of the different plants, shrubs or trees which he is called upon to prune. For instance, take the golden bell, the earliest flower that opens in the spring. If you take the pruning shears and shear off a portion of the new growth of last season, you will sacrifice the show of flowers that you would otherwise receive for the bloom is almost all on the ends of the branches.

Likewise in pruning the peach, if you cut off the ends of all the branches comprising all of last year's growth, you will remove all the blossom buds from the peach tree and sacrifice your crop of fruit for the coming season. With the quince the conditions are somewhat similar, the fruit being borne on the tip end of the new wood, but with the apple, pear, plum and cherry conditions are different, for the fruit crop is not largely borne on the new wood, but on old fruit spurs scattered all over the tree. There is food for thought in this brief reply to our correspondent's question. I have alluded to it before and will probably have occasion to do so again.

Rabbits Girdle Trees

In March, 1915, I bought 22 apple trees, planting out same the following week after arrival, first having the holes dynamited. All of them grew splendidly and were looking fine until yesterday when my hired men came in with the report of rabbits' visits to every young tree in my orchard. I had several peach and cherry trees and about fifteen three-year old apple trees in the same plot that were not molested. When I went out I found they had barked entirely around 19 of my small ones, and in my yard had eaten around three pear trees whose trunks were as large as my wrist. Is there danger of these trees dying? Kindly tell me if there is any way to save them and if there is danger of their attacking my older trees.

For years we have been buying our fruit trees at Rochester, N. Y. Green's Fruit



Grower is read religiously by every member of the family. I think my mother had been buying fruit trees for 20 years from Rochester, and I know of but one tree dying. Two years ago bought a beautiful, but new place, just one mile from home, where I expect to make a small fruit farm. Last year and the year before I sold over 200 gallons of strawberries from a trifle over one-half an acre. In 1920 I shall plant a new bed of strawberries. My cherry and peach trees are three years old and should bear this year, should they not?

Do you think apricots would grow in this climate? I am so anxious to grow them. One traveling nurseryman told me it was useless to try as they never thrived in a climate where there was snow.—Miss Evelyn Eastland, Ky.

You can grow apricots in Kentucky. The apricot is nearly as hardy as the peach but its blossoms appear earlier and are therefore susceptible to danger from late spring frosts. I advise you to plant only a few as a test.

I fear that the rabbits have destroyed your trees which they have entirely girdled. There is a method of inserting grafts connecting the lower bark with the bark above the injury, but this is expensive. (See articles by E. W. Gage in this number) Where all the inner bark has not been gnawed away sometimes an application of fresh cow manure held in place by burlap will save the lives of the trees. I regret to learn of your loss.

Your peach trees should bear fruit this year. Cherry trees do not bear fruit quite so early after planting as peach trees.

Propagating Sweet Cherries

Can I propagate sweet cherries by grafting? Will buds from a sweet cherry do well on sour cherry stock? I have some small sour cherry seedlings which I budded to sweet cherries in the fall and I am sure some of the buds did not take as we had an unusually dry summer and fall. I want to know how to manage those seedlings on which the buds did not take. I have read the Fruit Grower about twenty-five years and would be lost without it.—G. W., Kentucky.

The sour cherry tree is not a good stock for the sweet cherry, but I have seen sweet cherry trees grafted or budded onto the stocks of sour cherries. Unless the bark parts easily from the wood, cherry trees cannot be successfully budded. The trees you budded last season which failed might be grafted the coming spring just before the buds open, but I have found the cherry more difficult to graft than other fruit trees.

Care of Grape Vines

I have some that were set out last spring and others that fruited for the first time this year, but had but little fruit.

Have never pruned them. Will you tell me how to prune them and when? Am a subscriber of your paper, "Green's Fruit Grower." I enclose stamp for reply.—O. A. K., N. Y.

The vines planted last year should have all the wood cut off back to three buds. These three buds will this year make a vigorous growth, partly or entirely stretching across your trellis, and should bear some fruit next year. From the older grape vine you should select three or four strong new canes to be fastened and spread over your trellis. The ends of these canes can be cut back two or three feet. This will leave enough bearing wood for fruiting and for covering the trellis this coming season. All the other wood or canes should be removed.

Effects of Grafting

Mr. C. A. Green: As I live alone and have a lot of time to read, I read everything I can get about horticulture.

1. Do you think the stock on which a graft is placed has any influence on the time the fruit matures or ripens, and will it change the flavor in any way?

2. What do you think of H. M. Steinfellow's close root pruning?

3. I have a seedling pear which I would like to get to grow on its own root. Can you advise me how I may be able to grow it in that way?—M. E. Ohio.

1. Yes, it is possible that the stock may have some effect on the fruit borne on a graft on that stock, but opinions on these matters are largely speculative.

2. There is something in close root pruning, but I would never prune any kind of tree or shrub so closely as Mr. Steinfellow advised in his method of root pruning. While it is not necessary that there should be a big heavy mass of roots on a tree in order to make it live and thrive, a large amount of roots cannot do serious injury. I would rather have too many roots than too few. The object of root pruning is to secure new roots as quickly as possible, but new roots will appear even if there are plenty of old roots.

3. I do not know how you can secure a tree of your favorite pear upon its own roots. I see no other way than to make a cutting of the pear tree send out roots, which would be a difficult problem.

Grafting Nut Trees

Kindly advise me as to the methods of grafting or budding nut trees. I understand there is a trick in doing this successfully.—C. H., Wis.

It certainly requires skill to succeed in grafting any kind of nut tree. I have attempted it several times and failed. I doubt if the most skillful grafter could tell the novice how to succeed in grafting nut trees. See personal experience of E. N. Craig given in this issue.

Should Fruit Trees be Girdled?

Mr. Chas. A. Green: I have a thousand apple trees fourteen years old. Most of them are early apples. I cultivated the land until the trees were nine years old. Since then the land has been in clover and sod. Two years ago I manured the orchard heavily and am doing so again this winter.

I also spray, but I have never had a crop of more than a thousand bushels. Do you think girdling the trees would make them bear larger crops? If you advise girdling, please give me full instructions as to the best way and proper time for doing it. I read in a recent magazine of a Kansas man who, by a girdling process, caused Mammoth Black Twig apple trees to bear from 18 to 25 bushels of apples to the tree. These apple trees were 18 years old and had never borne a crop. I am afraid to try it without asking your advice. My last year's crop of apples was of excellent quality, but

10 or 12 bushels were the most gathered from any tree.—C. E. B., Tenn.

I hesitate about advising any man to girdle or otherwise mutilate his fruit trees of any kind. My opinion is, that your orchard will come into heavy bearing in due season without any serious manipulation except to keep the ground cultivated and fertilized to a moderate extent. I have no personal experience with girdling apple trees. My experience is that apple trees are more inclined to overbear than underbear.



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The above photograph of two women pruning grape vines or tying the vines to the wires is suggestive of woman's work now so diversified, particularly in the nations of Europe. Each year the vines must be tied to the trellis after pruning. Some skill is required in so tying the vines that when new growth comes the trellis will be covered in all its parts so far as possible.



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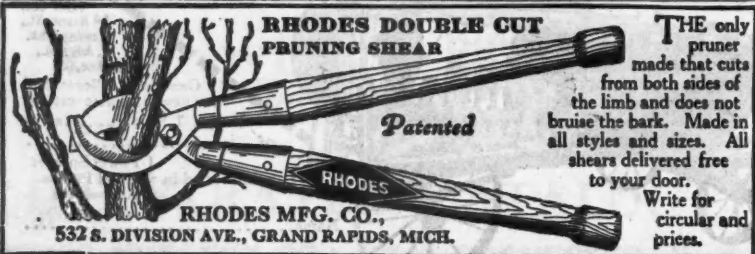
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Interesting Fruit Questions

Reported By C. A. GREEN

After the reading of several important papers the question box was opened at the recent Western New York Horticultural Society meeting at Rochester, N. Y., by Mr. Van Buren of the Hudson river fruit district, who conducted this department with rare skill.

Question 8: What variety can best be grafted on the Ben Davis apple? A member recommended the Baldwin, while others thought that Ben Davis was a profitable variety and in most instances should not be regrafted to another variety, claiming that it was found valuable for a baking apple as well as for many other purposes and was salable on account of its color and freedom from blemishes and on account of its large yields of fruit. Others thought it was too low in quality, discouraging those who purchased and consumed it.

Question 9: Are many grading machines used by members of this association? A show of hands was asked for, indicating that many were using apple graders, but there were many who were grading by hand. All the apple grading machine does is to grade the size. The machine cannot sort out defective apples, therefore after the apples have been run through the apple grader, they must be sorted by hand for defects such as fungus, bruises, worm holes, or a lack of color. One member thought that 40% of cost of grading apples could be saved by a machine if the fruit was good. One member sorted his fruit by machine and packed in bbls. at 10 cents per barrel, while others found it cost them 22 cents, others 20 cents. Several members claimed that grading machines were not helpful. The grading machines grade into four sizes.

Oranges are almost always graded by machine but with less difficulty than with apples owing to the more regular circular form of oranges. Some varieties of apples are long, others round in shape, which affects their passage through a grading machine.

Question 15: Which is the best time to plow an orchard? There was a division of opinion on this subject. One member advised plowing whenever he could spare the time in spring or fall. Others preferred to wait until spring since they could get over the ground more easily before it was plowed than after. Where the ground was inclined to be heavy, if plowed in the fall the land would be almost as hard as ever in April or May. By plowing in the fall many insects and many fungus spores could be buried and destroyed. Whatever the time of plowing, only shallow plowing should be given. If plowing was deferred until spring it was found important that it be done early since the feeding roots of the trees begin growth early and are destroyed if the spring plowing is done late. No cultivation of the orchard should be given when the soil is wet and sticky. Plowing so late as May 15th might be injurious in destroying many feeding roots of the apple orchard.

Question 7: Can cow peas and soy beans be grown with profit in our orchards at the north? They are successfully grown in Delaware and other midway southern districts, but they are extremely sensitive to cold, are easily destroyed by frost and will not flourish under the shade of apple trees, therefore there are objections to their being used as a cover crop in the north and yet are used by some successfully. The best success was secured where either of these cover crops were drilled in with sufficient distance between the rows to admit cultivation. Where three or four cultivations were given between the rows, successful growth was secured. It was suggested that cover crops can be more profitably plowed under when green than when left to harden on the surface of the soil. A plant is more quickly converted into humus and fertilizer when green than when dry and hard.

Question 27: Are quinces a profitable crop? There did not seem to be many quince growers present, but those who were growing quinces and who gave them proper attention reported that they were a profitable crop. In order to grow good quinces or any other fruit the foliage must be looked after carefully and protected from fungus or blight.

Question 28: Which is the more profit-

able plum, the German prune or the French prune, which is claimed to be the same as Felleberg? Both of these varieties were held in high esteem by members. German prune yields more fruit than Felleberg but does not sell at quite such high prices. Felleberg is thought to be the best in quality when fully ripe, but a member said that he would prefer a canned German prune as regards quality to the Felleberg. Both are productive and profitable varieties and both are of good quality. David Bell, a large Rochester plum and pear grower, says that he gets as much fruit from two German prune trees as from three Felleberg trees. He has found the blossoms of the German prune more tender than those of Felleberg. German prune makes the largest tree and is most productive in his opinion. German prune hangs well upon the tree and continues to improve in quality the longer it hangs. He considered these two plums the best of all. He sold the German prune the past season for four cents per pound and the Felleberg for four and one-half cents per pound.

Question 3: Does summer pruning of apples hasten fruiting? Reply: Yes.

Question 5: Will the orchards that were severely affected in 1916 with scab fungus be liable to bear full crops in 1917? Reply: Attacks of scab fungus in 1917 should be anticipated and unless carefully treated a lighter crop of perfect fruit could only be expected for 1917.

Question 10: Can apple sorting be done so safely by machine as by hand? Reply: Yes.

Question 11: When will we come to the boxing of apples: or at least to putting up a grade of fruit to compete with the west? No one seemed qualified to answer this question. We can hardly hope ever to secure the color on apples that can be secured in some of the western states where there is perpetual sunshine, but we can produce good apples, well colored, that are of better quality than western fancy fruit.

Question 12: Sweet apples; is there a demand for them? Name the most desirable kinds. Reply: Pound sweet, Bailey Sweet, Sweet Bough, but Sweet Bough is often seriously infested with the railroad worm. The demand for sweet apples in most markets is limited.

Question 13: Apple and peach trees set alternately are crowding each other, which would you dig out? Reply: In most instances I would dig out the peach trees since they are the shorter lived of the two.

Question 14: What cause or causes were responsible for the 1916 crop of apples being so small? Reply: The season of 1916 was most exceptionally unfavorable for the fertilizing of apple blossoms and for the growth and maturing of the fruit, and favorable to the increase in fungous attacks, owing to the peculiarities of the season.

Question 18: Would you advise planting dwarf apple trees as fillers, and how should they be pruned? Reply: There is a difference of opinion in regard to dwarf apple trees. Their planting is advised by those who have small grounds or small fruit gardens. Some do not advise planting dwarf apples for commercial orchards. The pruning of dwarf apple trees does not vary much from the pruning of standard apple trees.

Question 20: Is it advisable to replace Bartlett pear trees, if doing well, with more thrifty, younger trees? Reply: No. The Bartlett is considered a standard market variety of pear. It is more profitably grown now that it can be kept so long in cold storage.

Question 25: Has anybody had experience with peaches in cold storage? A member has discovered that peaches can be kept several weeks in cold storage but that they deteriorate in quality and will not keep long after being taken out of cold storage.

Question 30: Is it not good practice to cultivate a Bartlett pear orchard until July first and then sow to buckwheat? One member sees no objection to the above practice. It is well to keep the soil covered with some growth at least a portion of the season, otherwise the soil deteriorates.

Question 34: Is there a better red raspberry than Cuthbert and the Marlboro?

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YOUR TREES NEED "SCALECIDE"

Because it kills every kind of scale and destroys the eggs before they hatch

Because it keeps out the Pear Psylla, Bud Moth and Case-Borer. Also stops the growth of Canker and Cedar Rot

Because it is penetrating to tree growth insuring better fruit and bigger crops

Because it saves money, time and trouble. — cannot afford to do without it

Sold on a "money-back" proposition

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IRON AGE

Farm, Garden and Orchard Tools
Answer the farmer's big questions:
How can I grow crops at least expense? How can I get my spraying done and on time? Use an

IRON AGE Engine Sprayer

No. 115-F
Greatest combined field and orchard sprayer

Sprays 10 rows potatoes, 5 rows cantaloupes, cucumbers, etc., at one operation and at 500 pounds pressure. The first and only sprayer adapted for so rapid field work and, at the same time, unsuited for orchard use. Write for Circular No. 12.

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Quality! Quality! Quality!!

is the insistent demand of the present-day market. Growing peaches is particular business but it yields big profits to the man who has learned to produce high grade fruit. Plant Harrison's Quality Trees. They live—they grow—they bear big crops of choice fruit. They bud from bearing orchards. Our 1917 Fruit Guide describes all the leading varieties. Also apples, pears, plums, cherries and small fruits and ornamentals. A reliable guide for the beginner and a valuable reference book for the veteran fruit grower. It's free. Send today. "Largest growers of fruit trees in the world."

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FOR SPRAYING, PAINTING AND DISINFECTING

Have you fruit trees, vines and shrubbery that need attention? If so, be prepared to Spray the MYERS WAY when the time comes. Make your choice from the Myers Line of Hand and Power and your results will be most gratifying.

Spray Pumps, Nozzles and Accessories, and own an outfit you can rely on for real spraying service and your results will be most gratifying.

MYERS SPRAY PUMPS are known and extensively used in every fruit growing territory—Pioneers in the spraying field, with 45 years of pump building experience behind them, they have many practical features and improvements not found on others which insure better spraying with less work. The Patented Cog Gear reduces pumping labor 33%—The Automatic Pressure Control on Power Pumps eliminates pressure valve and insures uniform pressure. Neat designs, best of materials, hose and fittings, make MYERS Spray Pumps superior for every spraying service.

Write today for new Catalog, No. SP17, showing complete line of Myers Bucket, Barrel and Power Pumps and Complete Outfits, Nozzles, and Accessories, for every spraying purpose; also gives valuable spraying information and latest illustrations of codling moth, San Jose scale, etc.

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MYERS HANDY OUTFIT

MYERS COG GEAR BARREL OUTFIT

MYERS COG GEAR BARREL PUMP

Holds 12½ Gallon

Ready to Spray

Complete with Tank and Trucks

Learning Landscape Gardening

I was reared with small possibilities and what I have read and heard of this new business interested me greatly. I wish to engage in ornamental landscaping and floral culture, propagating most of the plants myself, using greenhouse, etc.

I am twenty-three years of age, with high school education but little experience in this line. Which would be the best way of gaining full knowledge of this business, viz.: A university course (I would have to borrow the money) or practical experience with an established firm and studying special books on this subject? In the first case, what eastern school is preferable, or in second case what books treat the matter thoroughly? I have read several interesting articles in Green's Fruit Grower, but I can get no technical information.—L. E., Ind.

You could learn more by entering the employ of a skillful landscape architect, as we may call him, than by reading entire libraries or by listening to lectures on the subject. There are many things we can learn on almost any subject unaided by an outsider. We can study the effect of natural scenes as we drive or ride through the country. We can learn of the beauty of curved roads and of the low-growing shrubs that border most woodlands where the adjacent field is not pasture. We can see where beautiful views are obstructed by tall-growing trees on our home grounds. We can see where the dwelling is too small and insignificant for the extent of the acreage lying

about the building or around it, or we can see where the building is too ornate or too big for the building lot. We can study the arrangement and placing of lawns in a few hours' drive through the most beautiful streets of any large American city, also how the flower beds and shrubbery are arranged on different places. In other words, if you are well fitted by nature for landscape gardening you may bring to your teacher an accumulative fund of information on the start. Then you can learn by studying your teacher's plans and seeing his work, which may be compared to that of an artist who paints his pictures in oils. The landscape gardener instead of using oil paints makes use of the reality, the growing trees, the shrubs, the lawn, the driveways and the groves as they appear in nature.

Storage House in the Orchard

"Our orchard is 9½ miles from Waverly, one of our shipping points, it's not all the time we get our apples out of the way of winter; in fact, owing to some mishap by the R. R. not getting a car of barrels in on time one whole crop froze in the orchard. Our orchard is on side hill and we have been thinking of putting a cellar or storage house in orchard by excavating in the side hill, putting in cement walls on sides of excavating and frame building over the top of same.

In case we had storage room for only our Rome Beauties this season they would now sell for more than the whole crop sold for last fall."

Will it pay to build a storage house? Would you build according to our plan? Is it safe to put young trees where old ones died? Should there be more than one kind of apples in orchard to insure a crop, if so, what kind would be best to plant with Rome Beauties?—D. W., Ohio.

We thoroughly believe that it will pay to build a storage house if you have any quantity of apples at all.

You have the right idea in digging out the side hill and putting in cement walls with a frame building on top.

The only change we have to suggest in your plan is that you might get a little better results if you used hollow tile for the walls and just put on a coat of cement over the tile.

We can see no reason why young trees could not be planted where old ones died, providing there was no disease in the ground at that particular point. It might be well to spade up the ground in good shape and work in some fertilizer sometime in advance of planting the trees. It is generally considered that there ought to be more than one kind of apple in an orchard in order to insure a crop. We would suggest that you plant either Baldwin, Northern Spy or McIntosh in the orchard with the Rome Beauty.

Poor Air Drainage

Q. I have a peach orchard 5 years old, mostly Elberta. They are on upland and have never borne but one crop and only a part of them at that. In the year 1915, they bore from the top of the hill to a certain distance down the hill. Tell me why those below got killed and the others didn't. They have bloomed three years but got killed by frost. Is there any way to keep the frost off? B. R. W.

A. The trouble with your peach orchard is that on cold still nights, the cold air settles down into the hollow of your orchard and freezes the buds on the trees located in the hollow. The ones on the top of the hill are not affected because the cold air has drained off into the hollow, so to speak. It is quite probable that you could overcome this condition by the use of orchard heaters, or by burning wood fires in the low part of the orchard. (See article on Orchard Heating, page 31 in February issue of Green's Fruit Grower.)

He put it off. A friend has entered my office to report that a near relative has just died. My friend remarked that the doctor had advised this man who died to take a vacation last summer, stating that if he did not take a vacation the result would be serious. The ailing friend intended to take the rest as recommended by the physician

BE SURE TO READ in our April Number the late Prof. Van Deman's article on planting the home grounds.

Classified Advertisements

FARMS FOR SALE

FERTILE FARMS, BEAUTIFUL Perkiomen Valley; Fruit, poultry, truck, dairy; Catalog. W. Stevens, Perkasie, Pa.

135 ACRES, NIAGARA County, 22 miles from Buffalo, Fertile Soil, Ample Buildings, Fruit. Very Desirable. Robert Burdick, Route No. 1, Clarence, N. Y.

YOUR CHANCE is in Canada. Rich lands and business opportunities offer you independence. Farm lands \$11 to \$30 acre; irrigated lands \$35 to \$50. Twenty years to pay; \$2,000 loan in improvements, or ready made farms. Loan of livestock. Taxes average under twenty cents an acre; no taxes on improvements, personal property or livestock. Good markets, churches, schools, roads, telephones. Excellent climate—crops and livestock prove it. Special home-seekers' fare certificates. Write for free booklets. Allan Cameron, General Superintendent Land Branch, Canadian Pacific Railway, 336 Ninth Ave., Calgary, Alberta.

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CHICKS, EGGS, POUND Pulls and Breeding Stock. All leading varieties. Order now. Sale arrival guaranteed. Catalog free. Wolf-Huber Hatchery Co., Box B, Gibsonburg, Ohio.

DAY OLD CHICKS for sale. 10 varieties, strong healthy chicks. Pure Breed and utility stock. Circular free. Old Honesty Hatchery, Dept. G., New Washington, Ohio.

BARRON LEGHORNS, Barred and White Plymouth Rocks, Rhode Island Reds and Orpingtons, Stock, Chicks and Eggs, Circular. Eastern Shore Nurseries, Denton, Maryland.

EGGS FROM BEST 20 varieties thoroughbred poultry. 15 eggs, \$1.00; 50, \$3.00; 100, \$5.50. Catalogue free. Henry Mohr, Quakerstown, Pa.

BABY CHICKS, HIGH class, pure bred stock. Safe delivery guaranteed. Catalog free. Lantz Hatchery, Tiffin, Ohio.

MILCH GOATS. Write George Wickham, 2916 East Central Wichita, Kansas.

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EVERBEARING STRAWBERRIES, PROGRESSIVE and Superb. Guaranteed genuine Plants per 100, \$2.00; 500 for \$9.00. Cuthbert Red raspberries, same price. Anna Galigher, Cambridge, Ohio, Route 1.

DAHLIAS, GLADIOLUS. 200 varieties, 5c up, postpaid. Catalog. J. S. Griffing, Flemington, N. J.

HOW TO GRAFT by various methods. Send 50 cents, silver, for book of untold value to every fruit-grower. Postpaid. Northrop, 692 Wyoming Ave., Wilkes-Barre, Pa.

ASK FOR FREE copy Waterfowl-Turkey News, Scranton, Pa.

FREE FOR SIX MONTHS—My special offer to introduce my magazine, "Investing for Profit." It is worth \$10 a copy to any one who has not acquired sufficient money to provide necessities and comforts for self and loved ones. It shows how to become richer quickly and honestly. Investing for Profit is the only progressive financial journal and has the largest circulation in America. It shows how \$100 grows to \$2,200; write now and I'll send it six months free. H. L. Barber, 549, 20 W. Jackson Boulevard, Chicago.

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LOOMS—ONLY \$8.50—Big money in weaving rugs, carpets, etc., from rags and waste material. Be sure to send for free loom book. It tells all about weaving and our wonderful \$8.50 and other looms. Union Loom Works, 270 Factory St., Boonville, N. Y.

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MEN—WOMEN, NICE, clean reliable business. Cedar Safe Garment Bags to put away winter clothes. Make \$30 week. Waks Mfg. Co., Dept. 36, Cincinnati, Ohio.

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but put it off again and again, and finally gave up the vacation idea altogether. The result was impaired vitality and weakness of the heart brought on by over-work and lack of rest. How many there are who are following in the footsteps of this man who was putting off an important action.

Apples to Plant

I have an orchard in Central Maine, and grow as my leading varieties of apples Baldwin and Northern Spy, with younger trees just beginning to bear, of Delicious and McIntosh and Winter Banana.

I think of enlarging and am puzzled to know which variety to enlarge on. Am rather inclined to choose Northern Spy, with Delicious as second choice. Could I do better than that?—C. G. A., Maine.

We would suggest that you use the Northern Spy and McIntosh as the two varieties to enlarge upon. Our reason for suggesting the McIntosh in place of the Delicious is that while the Delicious has been successful in the Ozark section it has not in every case been as successful in the eastern fruit districts. On the other hand, McIntosh has been successful in your part of the country and has averaged the highest price per barrel of any variety over a period of nine years. This certainly indicates that McIntosh is a valuable variety.

Of course, all varieties have their drawbacks. The Northern Spy will probably average a good crop only every other year and is somewhat subject to fungus attacks, though both of these points can be largely overcome by proper management and careful spraying.

The McIntosh is susceptible to scab, inclines to ripen unevenly, and is liable to drop before it is ready to pick. These points how-

grow well in the summer, they winter kill. Have Gregg, Kansas and Plum Farmer growing but they are far from being a paying proposition the last year, in fact, never have paid like those you read about. Is there anything you might suggest through the Fruit Grower that would help me? If I could produce the berries the price is all right. Had 540 plants set 6x6 feet 2-years old that only brought 3 cents per bush or \$16.50 for the entire crop. I was figuring on at least 10 cents per bush.

Please mention the varieties of plums that will do well in Kentucky. Would like Abundance for one variety. Would you advise setting all Montmorency cherries? Ben Davis is the most profitable apple, though quality is poor. It is the only sure cropper.—W. V. L. Ky.

Possibly a row of cherry trees between the rows of plum trees might be an advantage to the plums, but generally speaking, I would prefer to have each kind of fruit by itself though I often grow peaches between rows of apple trees.

I consider Montmorency the greatest and most profitable of all cherries, but it is a late cherry, therefore, Early Richmond would work in well with Montmorency.

I am surprised that raspberries winter kill in Kentucky. Gregg is not so hardy as Kansas and Plum Farmer. Have you tried bending down the bushes and giving them winter protection? Stop cultivation in raspberries August first, and give the wood of the bushes a chance to harden and ripen fully. Your raspberries do not yield as they should. They must be planted on well-drained soil and not on low land for market. Burbank is a profitable plum, medium late. Abundance is early and of better quality. Plant a few Lombard and York State prune.



Intercropping a Young Orchard

Shortage of Seed Potatoes

The fall and spring seasons of 1916 and 17 were seasons of partial failure in the potato crop over a large portion of this country. The season was not favorable for the potato crop. If the early frost last fall had held off for a few weeks the potato crop would have been almost doubled. The season was so cold and wet in April, May and June, that potatoes could not be planted, or if they were planted they rotted in many instances. The price opened, as near as I can remember, at \$1.00 per bushel last fall, increasing in price slowly to \$1.50 and \$2.00, and finally \$3.00 per bushel, which is the price I am paying for potatoes on this 19th day of February.

Since I am somewhat pessimistic or apprehensive I am asking myself the question, Will the average fruit grower and farmer lay aside a sufficient amount of seed potatoes to produce a full crop the coming season? Knowing human nature as I do, I have fears that there are many so improvident that they will eat up their last potato and take great chances of being able to get more of their neighbors or other individuals for their own planting, which would be a calamity not only to themselves, but in the aggregate to millions of other people. In order to indicate my thought on this subject I will say that I have bought today potatoes for planting next spring, paying \$3.00 per bushel. I simply throw out this as a hint to those who may not have given this subject thoughtful attention.—C. A. Green

140,000 STANDARD SPRAY PUMPS

Are Now in Use

WITH it farmers and fruit growers spray their tallest orchard trees from the ground in half the time required by others. The knapsack attachment enables them to spray potatoes and low growing crops at an acre an hour or better. They whitewash their barns and chicken coops, and spray "dip" on their live stock with the Standard Spray Pump.

Made throughout of brass, with nothing to wear out or break, the Standard Spray Pump lasts a lifetime and pays for itself over and over again.

If your dealer does not handle it do not accept a substitute but write direct to us. \$4 prepaid (\$5 west of Denver.) Knapsack attachment at slight additional cost. Money back if not satisfied. Write today for Special Offer and Catalog D.

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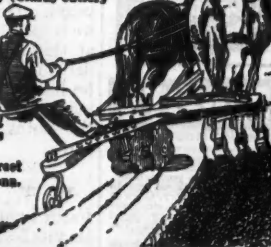
Work close with the California Orchard Plow

The yield and quality of your fruit depend largely upon the tillage your orchard receives. Choice fruits command high prices. You can't work among the trees and under the branches with ordinary tools. It will pay you big to learn about the

Cutaway California Orchard Plow

Reversible—turns the soil either to or from the trees. Extends under branches. Also made with additional extension, when desired, for unusually wide low trees. The Cutaway (Clark) California Orchard Plow balances right—there is no side-draft. Convertible into a field plow for general farm use. Has Cutaway (Clark) cutters, steel disks, forged sharp. It will improve your fruit-crop. One of the many Cutaway (Clark) tools. If not at your dealer's write direct. Write for our free book, "The Soil and Its Tillage."

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Maker of the original CLARK disk harrows and plows
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\$17,500 A Year From 25 Acres

JOHN ALTER, Belle Plaine, Kansas, won't have anything but Moncrief trees of known parentage. He has just accepted \$700 an acre for his 25 acre crop. Others are making high profits and so can you. You can get big sure yields of fine easy-selling fruit if you plant Moncrief's

Silver Medal WINESAP

The great winner of honors. Wonderfully productive. A most handsome apple, big and round and so luscious—words are weak in describing this magnificent variety. Just think of 14,000 bushels from 1,000 trees—bringing \$1.25 per bushel. That's the record for 1916 alone! You can have the very same success.

Moncrief Trees of Known Record

The only trees with scions taken from trees of known record for regular heavy yields. Success with Moncrief trees is sure. They are noted for quick growth and extra-heavy yields of fruit. We offer the strongest guarantee that ever was put on a tree.

After 9 Years Testing we now offer a few trees propagated direct from the best trees of the Alter 240,000 orchard. You can equal his success. There will be a big demand for these trees—better order right away.

John Alter says: "This 25 acres of Silver Medal Winesap is set to Moncrief Pedigreed Trees and for 7 years has borne a full crop each year. In 11 years my pedigree Winesap has produced over \$41,000.00 worth of fruit."

Avoid Risks—Prevent Losses

Learn about my scientific way of propagating trees—the same method employed by the U. S. Government in citrus growing. Wonderful! Astounding!

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My Orchard Book FREE

Tells about our scientific method of producing trees of superior strain, trees you know will yield regularly and heavily. Illustrated and describes best varieties of fruits, berries, etc. Letters from scores of satisfied orchardists. You need this book whether you grow trees to sell or only a few for home use. It's a book of bigger profits for you. Write for it today.

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Send me your new Orchard Book free and postpaid, telling all about Moncrief improved fruit trees of all kinds:

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Graft Those Trees

You Can do it Yourself With

Wheeler's forged steel oil tempered grafter, light, strong, easy and efficient. Illustrated directions, how to graft and needed with each tool. With this outfit anyone can graft successfully. Price, postpaid with 1-2 lb. wax \$1.00. Without wax \$0.75. Satisfaction guaranteed.

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NEWTON'S Heaves, Cough, Distemper and Indigestion Cure.
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Farm Department

Stable Manure vs. Commercial Fertilizers

"The principal plant foods supplied in commercial fertilizers are nitrogen, potassium and phosphorus," commented Mr. Throckmorton. "In addition to these elements the fertilizers contain a body which may be made up of dried manure, cinders, slag, ground rock and various other mixtures of like nature. These are of course necessary to some extent, for they furnish means of evenly distributing over a large area, a small amount of the plant food, but they are somewhat deceiving to the farmer who has not closely investigated the composition of fertilizers in general.

"By commercial fertilizers are meant fertilizers which are sold for their content of nitrogen, phosphorus and potassium. "Barnyard manure, straw and all kinds of organic matter may be added to soils with profit. Especially is this important in sections lacking in organic content. Organic matter not only furnishes food for bacteria that make available much of the nitrogen of the soil, but improves the texture of the soil structure and the water holding capacity of the soil as well.

A Farm Loan Question

"Suppose a farmer borrows \$1,000 for 40 years. He pays his annual payment for, we'll say for example, 10 years. If he wishes at that time to pay the remainder of the debt, must he pay the other 30 notes which he has given, at the amount named on the face, or must he pay only the principal of the notes and not the interest?"—E. E., Ind.

W. W. Flannagan, Secretary of the Farm Loan Board, answers the above question as follows:

"If a farmer should borrow \$1,000 for forty years and should pay off his annual installments in the first ten years, he would have the privilege of paying off the balance of the debt as a whole or any part of it in multiples of \$25. Any amount paid on the principal after five years in excess of the regular installments, is a part cancellation of the debt, and the borrower has no interest to pay on that amount. For example, suppose after five years he should pay an additional amount of \$200 on his debt, the debt would be reduced that amount and interest is paid only on the unpaid balance of the debt. That is to say, the borrower is given every advantage after five years to pay off any part of his debt in multiples of \$25 so as to save him the payment of interest as much as possible. This is one of the great advantages of the farm loan act, in that it saves the farmer as much interest as possible by giving him the privilege of paying off any part or the whole of his debt after five years.

Fruit growers, as well as general farmers, can reap the benefits of the farm loan act in accordance with the appraised value of their property. Fruit growing properties in many sections of the United States rank high in acreage values and while the appraisal of these properties may not reach as high a figure as those of the owners, there is no reason to believe that the values will be greatly reduced so as to shut off fruit growers from the full benefits of the farm loan act.

Where fruit growing is carried on in particular sections and the growers organize their own National farm loan associations, the first appraisal of their properties as basis for loans will be made by a committee of three members of their own association. These appraisements will afterwards be examined by a Federal land bank appraiser familiar with the land values from an agricultural point of view of the state from which he is appointed, and he will pass upon the properties, as well as upon the appraisal of the local loan committee."

Show Confidence in the Boy

There is nothing which quite takes the place in a boy's life of the consciousness that somebody—his teacher, brother, sister, father, mother or friend—believes in him. One of the most discouraging things to a youth who is apparently dull, yet is conscious of real power and ability to succeed, is to be depreciated by those around him, to feel that his parents and teachers do not understand him, that they look upon him as a probable failure.

When into the life of such a boy there comes the loving assurance that somebody has discovered him, has seen in him possibilities undreamed of by others, that moment there is born within him a new hope, a light that will never cease to be an inspiration and encouragement.

If you believe in a boy, if you see any real ability in him (and every human being is born with some ability to do some one thing well), tell him so; tell him that you believe he has the making of a man in him. —F. H. Sweet.

Animals and Snakes Take Heavy Toll

The government resolution on wild animals shows that during the last year 1,745 persons were killed by wild animals in British India, an increase of about 9 per cent on the previous year's casualties. As usual, tigers were chiefly responsible, 646 lives having been lost through their depredations, in Ranchi alone a man eater being responsible for a large proportion of 289 fatalities in that district.

The loss of human lives due to snake bites amounted to 22,894, an increase of 1,124 over the previous year's figures, mortality in the Punjab being the highest for that province recorded in recent years. Here Echhi's vipers were the greatest source of danger, and special measures to exterminate them have been organized. The number of cattle killed by wild animals totals 94,746, a slight increase over the preceding year's figures, due chiefly to better registration.

Of the total mortality from wild animals, leopards claimed over 50 per cent; tigers and wolves coming next. Ten thousand three hundred and thirty-nine cattle succumbed to snake bites. During the year under report 25,903 wild animals were destroyed, including 1,481 tigers, 6,557 leopards, 3,076 bears and 3,066 wolves, the total amount paid in rewards being Rs. 101,181. The number of snakes destroyed was 118,816.—The Calcutta "Englishman."

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The Farm Dry House

By F. W. CLARK

Some years ago we had a fine crop of fruit, but an early frost made about 1800 barrels of it unfit to barrel, and being unwilling to lose it we immediately set to work to put a small building 10 x 24 feet, in shape to dry these apples. We divided the building into two rooms, 10 x 12 feet, using one room for working space and the other for a furnace room.

The second floor was divided into two rooms of the same size, the room over the furnace having a slatted floor and being used as a kiln or drying room, and the other room being used for slicing the fruit before drying, and for storing it afterward.

Our equipment consisted of an old hop-kiln furnace, one hand power paring machine, a primitive slicer worked by foot power, and a home constructed bleacher. This last was just a long wooden box open on both ends with a small pipe out of the top to furnish a slight draft and to carry off the surplus sulphur fumes. When in operation the open ends were covered by a heavy piece of burlap.

To get the fruit upstairs we used a hand power elevator, which was just a platform holding four crates of apples, with a heavy rope from each corner of the platform to a ring that was hooked into one end of a block and tackle. The block and tackle was

As we have built this dry house on the installment plan, it will be a little difficult to state just what it cost, but it was probably in the neighborhood of \$2,000 for the entire plant. This means for first-class material throughout, kilns thoroughly lined with asbestos and everything made as nearly fire proof as we could build with wood. Of course if one knew at the start just the size he wanted to build, this cost might be cut down somewhat.

Does it pay? Yes, if the help can be obtained without too much trouble, for it not only enables you to make something out of your waste and cull fruit, but it also places you on independent ground so that you can get what your apples are worth when you wish to sell the green fruit.

Editor's Note: If you would like to have us publish a more detailed description of this dry house with a list of machinery, etc., needed, just mail us a postal card request and we will arrange to publish it in the near future.

Desirable Trees and Shrubs

Here are a few hardy ornamental plants, vines and trees that anyone can succeed with. Among trees there are the Norway maple, ash leaved maple, purple leaved



A View of the Farm Dry House Described on this Page

fastened to one of the rafters directly over a hole in the second floor, just big enough to admit the platform containing the crates. This platform was held in place by four light posts set at each corner running from floor to ceiling.

With this equipment we handled the 1800 bushels of fruit and made a nice profit, all the work being done by the family.

But we soon outgrew this plant. I believe it was the 4th of October 1912, that there came the most destructive wind storm to the apples of this section that has ever been experienced, and we had about 3000 bushels come down in a single afternoon. So we immediately set to work to enlarge our dry house to handle this fruit, building two kilns, one 18 x 18 feet for white apples, and one 14 x 16 feet for chops and waste. We put in power machinery throughout, using three power parers, a power slicer and a power conveyor to carry the fruit through the bleacher to the kilns. The power for the plant was furnished by a gasoline engine that had been originally purchased to saw wood and do other odd jobs around the farm. With this addition we could handle from 150 to 175 barrels per day, having also enlarged our workroom to accommodate additional workers.

As natural gas came our way about this time, we used it for drying in place of the open furnaces previously used, and for lighting as well. This made a very convenient and desirable sized dry house for the average orchard of two or three thousand barrel capacity. We have recently added one more paring machine and another kiln 18 x 20 feet so that we could handle 250 to 300 bushels per day, giving us the ability to handle some outside stuff if we so desire.

plum, Lombardy poplar, horse chestnut, Carolina poplar, hardy catalpa, Russian mulberry, American elm, sugar maple, golden willow and cut leaved weeping birch.

In ornamental shrubs I recommend the following list: spiraea Van Houttei, spiraea prunifolia (bridal wreath), spiraea Anthony Waterer, spiraea callosa rosea, spiraea Billardi, deutzia crenata rosea, deutzia "Pride of Rochester," deutzia candida, golden leaved elder, snowball, althea (rose of Sharon), purple fringe or smoke tree, forsythia viridissima, yucca filamentosa, purple leaved barberry, barberry Thunbergii, Japan quince, rhododendron, hardy hydrangea, lilac, butterfly bush, perennial phlox, paeonies, weigela, tree cranberry, syringa (mock orange), golden leaved syringa, ostrich plume, anchusa, golden glow, gladiolus, dahlia, clematis, honeysuckle and roses.

Paint and Paper Saving

Painting and papering the interior of a dwelling is not of such vital importance as painting the exterior, but it is surprising how a room may be beautified by a fresh coat of paint and the application of new wall paper. The expense is not great. I can buy paper good enough for almost any room for ten cents a roll, including what is called oatmeal wall paper, which is attractive, artistic and in good taste. This class of paper can be bought in various tints. The kitchen should never be papered. The kitchen walls should be painted with lead and oil paint so that they can be washed if necessary. The steam from cooking and washing causes paper or whitewash to peel off from kitchen walls.

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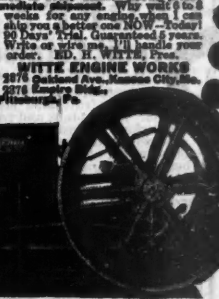
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Small Fruits

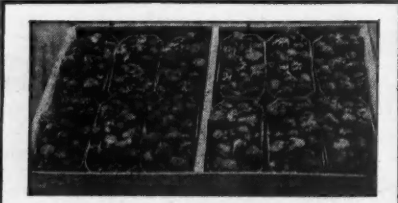
Everbearing Strawberries

By F. E. BEATTY

I wish to tell about a fruit that is creating more interest than anything else in horticulture. That fruit is the Everbearing strawberry. These varieties are not only creating interest among horticulturists, but also among men and women in all walks of life. You doubtless have heard of fellows being in a peck of trouble. Well, my troubles in trying to tell all about the Everbearers will have to be measured by the bushel instead of by the peck, because if I tell you all I can truthfully tell about them, it is possible that you might not believe me, and if I do not tell you what I actually know about them, I will fail to make you understand just how valuable they are, both for market and home use. When these varieties were originated, no one possibly could have been more skeptical than I. I considered them nothing more or less than a novelty. However, I started experimenting with them soon after they made their first appearance, and this experimental work was carried on in my private garden. While they fruited from early summer until late in the fall, I still was doubtful about their ever becoming valuable in a commercial way. And not until four

loaded with ripened fruit, but were white with blossoms, and also loaded with berries in all stages of development. Many hills produced a full quart of berries the same season the plants were set. The picking continued until early in November. The proprietors of Maplehurst Gardens were very particular not only in the growing, but also in the picking and packing of the fruit. The fancy berries were packed in crates of twelve quarts each and were shipped in refrigerators to the principal cities within a radius of one thousand miles, and the berries sold at 30 to 45 cents per quart wholesale. It is needless to say that at these prices, they were unable to supply the demand. The net price, after all shipping and selling expense was deducted, including the return of the empty refrigerator, was 34 cents per quart.

The varieties grown were Superb and Progressive, principally Superb. These growers are now preparing for a large additional acreage to be set next spring, and their entire acreage will be set to the Superb variety, as that variety has proved to be the most profitable for them. At both our Michigan and Idaho



Crate fancy berries ready for cover

or five years ago, did I have sufficient faith in them to endorse them. We had calls for these plants by the thousand, and even after the heavy demand forced us to grow the plants, we advised our customers to take only a few plants and try them before setting a large acreage. But through my years of experimenting, I have learned how these varieties must be handled in order to make them profitable, and now I am just as enthusiastic about them as I was skeptical not so long ago. There is absolutely no question about the everbearers being a complete success.

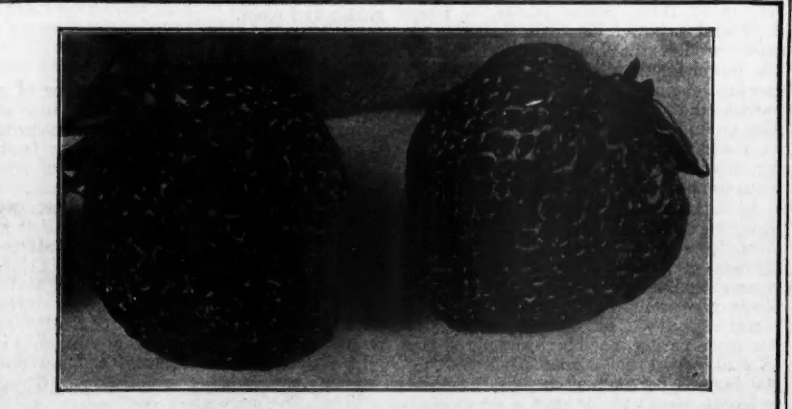
Last spring, during the latter part of April and early May, we set more than twenty acres to the Everbearing varieties for propagating, and although we fought diligently to prevent these plants from fruiting, they blossomed so profusely that it was absolutely impossible for us to do so, and early in September, we were forced to put pickers to work gathering the fruit. We picked every day almost continuously until the very last of October, and on Thanksgiving Day I picked as large and as beautiful berries as I ever saw.

Twelve acres of the everbearing plants also were set by the Maplehurst Gardens at Three Rivers, and these plants were set exclusively for fruit, and grown in hills. While these plants were not set until May and June, they began to fruit in August, and by September each hill was completely encircled with the most beautiful berries I have ever seen. The plants were not only

Superb is the boss of the Everbearers as far as a market variety is concerned, but the Progressive holds first place for home gardens. There is no question but that Progressive is the best in quality, but it is too delicate for a shipper; at least, that has been our experience.

When you stop to consider that the Everbearers fruit continuously and heavily for several months, you will better understand that they must be heavily fed in order to supply the necessary building material and in order to make it possible for them to mature their crop. The Maplehurst Gardens, to whom I have referred, applied 1,000 pounds of pulverized sheep manure per acre before plants were set, and 500 pounds per acre every thirty days after planting until three additional applications were made. The coming season they plan, in addition to the sheep manure, to apply 1,000 pounds of acid phosphate, and potash in some form at the rate of several hundred pounds per acre. The ground already has been heavily covered with horse manure.

If you will fill your soil with fertilizer rich in nitrogen, and will grow the plants in hills, you will get a pleasant surprise at fruiting time. I may say in this connection that the Maplehurst Gardens will set their plants in 1916 in beds of four rows each. The rows in these beds will be thirteen inches apart, and the plants will be set thirteen inches apart in the rows, with a thirty-inch space between the beds. This will give them approximately 25,000 hills



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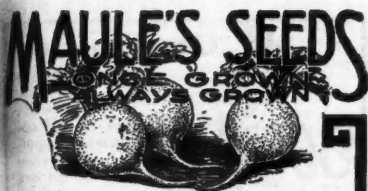
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Norway Maples

are the ideal trees for lawn or park. The dense bright-green foliage furnishes a delightfully cool shade. Harrison-grown Norway Maples mature rapidly into towering round-topped trees with sturdy trunks and branches. All our trees are grown by experts and carefully shaped by proper pruning. Our free 1917 Catalog—handsomely illustrated—describes a complete stock of ornamental trees, evergreens and deciduous shrubs and vines. Also fruit trees of every kind. Send for it today and plan for a shade-handicapped home.

Harrison's Nurseries
J. G. Harrison & Sons, Proprietors
Berlin, Maryland

to the acre. It is an interesting fact that the two proprietors of the Maplehurst Gardens had no strawberry experience whatever when they began this work last spring. One of the young men is a mechanical engineer and the other was an attorney who never had seen a strawberry plant until a year ago.

I predict that within the next few years, strawberries will be as common and will be in as great demand during the fall months as they have been heretofore in the early summer months. I also predict that the everbearing varieties will make it possible for the grower of small fruits to double his profits. Especially will this be true with the grower who follows intensive methods.

I have no desire to over-enthusiase anyone, but I do unhesitatingly advise growers of small fruits to consider the everbearing strawberries as part of their crop. I do not, however, advise anyone to grow the everbearers exclusively. Their mission is to prolong the season, not to displace the standard varieties. If what I have said shall encourage any grower present to engage in the cultivation of the everbearers, I shall feel amply repaid, for I know he will reap a generous harvest of dollars.

The Home Vegetable Garden (Continued from Page 14)

for this reason a careful study of seed catalogues is desirable. Many of the catalogues recommend certain kinds of vegetable as being especially desirable for home planting. By comparison of description it is not difficult to make a selection which will meet the individual need.

A fault common to many gardens is a lack of succession of vegetables, particularly peas, beans and corn. These can be had continuously from the latter part of June until frost, by careful selection of varieties or by successive planting. From four to six quarts of peas will be required to produce a quantity of these delectable vegetables. If you are fond of corn, plant at least four kinds. Usually one packet of string beans is sufficient for one planting, but one should have two plantings each of the yellow and green beans, and by all means include a row of bush limas.

Early, main crop and late beets should be planted and at least two kinds of lettuce, one loose leaf and one head. The cos lettuce is delicious and will be a good substitute for the head lettuce if one has not time for transplanting, although there are hot weather heading varieties which may be sown in rows then thinned out and headed in this way.

Radishes must be grown rapidly and a small successive planting made every six weeks.

A few hills of early, late and pickling cucumbers are a necessity to every garden. Right here let me suggest that you try your luck with musk melons. Some very happy surprises have rewarded the efforts of amateurs who have followed the cultural directions which most of the seed houses will send for the asking.

Carrots should be more generously used as a table vegetable. Creamed alone or with peas, or served similar to beets, they are both healthful and delicious.

A row of early celery will doubly repay the trouble of setting out, and Swiss chard or Collards will furnish delicious greens all summer. Unless one has unusual facilities for starting vegetable seeds, it is better in general to purchase tomato, cabbage, cauliflower and celery plants all ready to set out.

Personal preference will modify any given list, but the varieties given below will furnish a reliable guide for the home garden.

- Celery—Golden Self Bleaching Celery.
- Beans—Valentine Wax Bean, Giant Stringless Valentine Green Bean, Bountiful Wax Bean, Burpees Bush Lima or Hendersons Improved.
- Beets—Crosbys Improved Egyptian Beet (early), Detroit Dark Red (Medium), Edmunds Blood Red (Late).
- Carrots—Chantenay or Danvers Carrots, Swiss Chard—(Silver leaf).
- Corn—White Cob Cory or Howling Mob Corn (early), Golden Bantam Corn (early), Evergreen Corn (Late), Country Gentleman or Egyptian Corn (Late).
- Cucumbers—Improved Early White Spine Cucumber, Davis Perfect (Main crop), Green Prolific (Pickling).
- Lettuce—Grand Rapids Lettuce (loose leaf),

Salamander or Holyrood (Head lettuce), Trianon (cos lettuce).

Melons—Emerald Green Musk Melon (small), Admiral Togo Musk Melon (Med. large), Coles Early Watermelon.

Onions—Prize Taker Onion, Yellow Globe Onion, White Pearl, White Portugal Onion.

Peas—First of all are Subtle Marvel Pea (early), Prosperity (Second Early), Heroine (Medium), Alderman or Telephone (Late).

Tomatoes—Earlianna or Bonny Bert for early tomatoes, Stone (Main crop).

Cabbage—Early Wakefield or Enkhuizen cabbage (Early).

Pepper—Giant Crimson sweet.

Pumpkin—Calhoun.

Radishes—Early Scarlet Globe Radish, Crimson Giant (later), Delicacy, White Radish.

Squash—Quality Squash (Winter), Italian Vegetable Marrow (Summer squash).

Turnip—Golden Ball yellow turnip, Ruta Baga, Perfection Selected Sweed (Late).

Potatoes—Fresh Cobler or White Hebron Early Potato.

A Message from Kansas

Not long ago I met a farmer at the La Salle Street Station in Chicago who said to me, when he learned that my home was in Rochester, N. Y., "Do you know Charles A. Green?" I told him that his cheerful and accomplished daughter was the mother of my two boys and two girls.

With a pleasant expression of surprise he said, "I want you to take a message to him. Some years ago when I lived in Illinois I read something written by Mr. Green that seemed so reasonable and true that I was led to plant an apple orchard on my Illinois farm. My neighbors all thought I was making a mistake and tried to persuade me not to plant the apple trees, but I sent for the trees and planted them."

"Soon after I sold the farm. What I want you to tell Mr. Green is, that by following his advice and planting the infant orchard I sold my whole farm for twenty-five dollars an acre more than I could get for the farm without the newly planted orchard."

Then he said, "I moved to Kansas and planted an orchard on my newly acquired Kansas farm. I really thought my neighbors would get me in the insane asylum. They seemed to think I was crazy to think of planting an apple orchard in Kansas. I want you to tell Mr. Green for me that planting that young orchard in Illinois and another on my present place in Kansas were the two most profitable things I ever did as a life-long farmer. Tell him that my farm in Kansas is thirty miles from the railroad but my apple orchard is the most profitable lot on my farm though it is far from being the largest lot on the place."

This message is only one of many of the same nature which have come to Mr. Green from all parts of the country. I said to Mr. Green when I delivered the message, "I should think Mr. Green that a message like that would bring more satisfaction than some of the more tangible evidences of your useful life." "Well," he said, "It does."

Grafting Wax

Melt together four parts rosin, two parts beeswax and one part tallow. When cold enough roll it into sticks about six inches long and 1½ inches in diameter, being careful to reduce all lumps. It can be kept in a vessel of water for an almost indefinite time.

More or less tallow can be used to make the wax softer or harder. In cold weather a softer wax is needed than when the temperature is higher. Strips of muslin or tough paper can be dipped into the melted wax for use in tongue grafting.

Burpee's Seeds Grow



Burpee's Sweet Peas

For 25c we will mail one regular 10-cent packet (40 to 50 seeds) each of **CHERUB**, rich cream, edged bright rose; **KING WHITE**, the finest pure white; **MARGARET ATLEE**, best cream pink; **ROSABELLS**, a large deep rose; **WEDGEWOOD**, a lovely light blue. Also one large packet (90 to 100 seeds) of the **BURPEE BLEND OF SUPERB SPENCERS** FOR 1917. The finest mixture of Spencers ever offered.

Six Standard Spencers

For 25c we will mail one regular 10-cent packet each of the following: **DAINTY SPENCER**, pure white, edged with pink; **FLORENCE NIGHTINGALE**, charming shade of lavender; **IRISH BELLE**, lovely shade of rich lilac; **MRS. CUTHBERTSON**, finest pink and white bicolor; **MRS. TOWNSEND**, white edged and flushed blue; **STIRLING STENT**, bright salmon, orange self.

For 50c we will mail both collections named above, and a 15-cent packet of **ROSY MORN**, the new early-flowering Spencer introduced in 1917.

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The Leading American Seed Catalog, is better, bigger and brighter than ever before. 204 pages. Thirty (30) varieties illustrated in colors. It is mailed free. Write for it today, and please mention this publication.

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ALL WILL BLOOM THIS SUMMER

Barry, Everblooming, Guaranteed True to Name
COLLEEN—Bright rose on cream ground. **GRIN-SHOW QUEEN**—Brilliant crimson. **EUGENE MAILLIT**—Rich carmine. **LADY BRIMLEY**—Innocent saffron orange, superb. **THE QUEEN**—Pure white, large, extra. **PRES. TAFT**—The best large pink, fine.

I will send the 6 roses in large 3-year-old postpaid for only \$1.25.

DAHLIAS
SURE-BLOOMING COLLECTION
RED HUSSAR—Cardinal red.
BLUET, SNOODFIELD—Snow white, large.
QUEEN VICTORIA—Pure yellow.
COUNTRESS OF LOUISALE—Salmon pink, fine.
WIS. AMBER—Crimson, very free.
FLORADORA—Rich wine red, cascading.
See folder, any variety, 15 cents. Any 3 for 40 cents. The 6 for 75 cents postpaid.

DAHLIA SEED
New Century, Cactus, Black Striped, Double, Single, all colors. For 10c I will send 50 seeds—enough for a fine Dahlia Garden. Catalog FREE.

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BULBS 50 High Grade Flowering Bulbs 25c
Oxalis, Begonia, Gloxinia, Gladiolus, other kinds, Asparagus, Fern, All Postpaid. Send
OLD HOMESTEAD NURSERY. Round Pond, Mo.

SEEDS VEGETABLES 10¢ PACKAGES 10¢

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49th Year

Biggest seed bargain ever. Northern grown, tested, pedigreed stocks. Look at this fine, big collection, all choice varieties:

LETTUCE TOMATO CUCUMBERS ONION SWEET PEAS RADISH BEETS CABBAGE PASTY ASTER

Write today and we'll include our "Special Offer" Coupon good for 10c cash on future orders. Think what you get! Ten packages tested seeds, coupon worth 10c and our big, illustrated 144-page catalog. A great opportunity. Now is the time to send your dime.

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\$24 Buys the New Butter-
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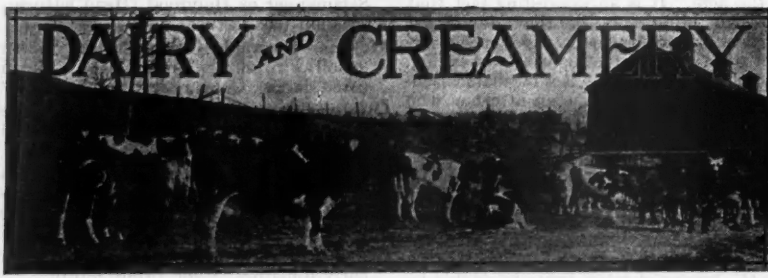
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Records of Dairy Sire is Best Basis for Selection

The modern dairy cow is bred so far away from the wild cow of nature that it is only by continual selection that the production of our herds can be maintained at the present level to say nothing of increasing it. The only practical ways for most farmers to greatly improve the production of their herds, according to C. H. Eckles of the Missouri College of Agriculture, are to cull out the inferior cows and introduce the best possible blood through the sire. The old saying that the sire is half the herd is literally true from the standpoint of herd improvement. The sire selected should first of all be a pure bred of the breed to which the cows belong. Cross breeding does not pay and in the end is disastrous to the herd.

The age of the bull so far as known has nothing to do with the characteristics he transmits. The advantage of the mature bull is that generally it is possible to see some of his daughters and in this way judge as to the character of his offspring. In buy-

only good animal in her family. In this case she is a freak in her family and will probably transmit not her own high milk production but the average of the family to which she belongs.

For a high-producing, pure-bred herd the safest way is, so far as possible, to select a bull old enough to have daughters in milk. It is then possible to judge fairly accurately as to the character of his offspring.

Agrigraphs

"Average" cows should be headed for the packing house.

Milk scales are the dairyman's cash register.

Consider the silo—it is economical, convenient and profitable.

In the production of clean milk it is first of all necessary to have healthy cows.



Good Buildings Add Materially to the Value of the Farm

Holding Back the Milk

Pateley Bridge, a noted English writer on dairy subjects, writes as follows on this subject in the Farm and Home, an English Agricultural Journal:

"Cows will sometimes refuse their milk to strangers, and a rough milker will often upset a herd. The remedy in these cases is to get rid of the offending milker, for among dairy cows gentleness and kindness should always rule. If a cow evinces a dislike for one milker or a preference for another, it is best to humor her and hand her over to the care of the favored individual entirely. The superiority of women as milkers is generally admitted by all experienced cow-keepers, and the obstinate retainer of her milk will often prove tractable with a woman while obstinately refusing it to a man. Unfortunately female milkers are scarce, and year by year become more difficult to obtain.

"A common remedy is to attempt to distract the attention of the cow from her milking by providing some tempting food. The question of feeding at milking time is a debatable one, and we are familiar with the arguments against it, but nothing makes cows so much at home in the milking shed or brings them home to it so cheerfully as what the Yorkshire man calls a 'bit o' licking.' As a general rule, the relationship between cow and milker is good in dairies where feeding at milking time is in an institution. In some cases with a strange cow patience wins, and if the milker sticks to his stool and keeps rubbing the udder and stroking the teats, he will tire out the most wilful of cows. In other cases it seems a

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 This KIRSTIN One Man Stump Puller is in a class by itself. It is as superior as it is different. Just a steady back and forth motion on the lever gives tons of pull on the stump. The secret of its great power is in double leverage. Made of high-grade steel, combining great strength, durability and light weight. Soft steel clutches grip and pull without wear on the cable. Clears over an acre from one anchor. Changes the speed while operating.
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 Largest makers in the world of Stump Pullers—both One Man and Horse Power.

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THE FARMER'S CEMENT TILE MACHINE
 Has a capacity of 1200 perfect tile a day in sizes 4 to 8 inches. Operates easily—either hand or power. No hand tamping. Fully finished complete. No extras required. Fully Guaranteed.
 Write today for **FREE BOOK** "The Soil Redeemer"—a valuable guide on drainage. Tells how many farmers have doubled and tripled profits and value of their land. A post card brings it and No Money Free Trial Offer.
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Write to Mr. A. L. Rice, Manufacturer, 12 North Street, Adams, N. Y., and he will send you a free trial package, also color card and full information showing you how you can save a good many dollars. Write today.

ABSORBINE STOPS LAMENESS

from a Bone Spavin, Ring Bone, Splint, Curb, Side Bone, or similar trouble and gets horse going sound. It acts mildly but quickly and good results are lasting. Does not blister or remove the hair and horse can be worked. Page 17 in pamphlet with each bottle tells how. \$2.00 a bottle delivered. Horse Book 9 M free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful Swellings, Enlarged Glands, Wens, Bruises, Varicose Veins; heals Sores. Allays Pain. Will tell you more if you write. \$1 and \$2 a bottle at dealers or delivered. Liberal trial bottle for 10c stamps. N. F. YOUNG, P.D.F., 11 Temple St., Springfield, Mass.



"Average \$300 a Month"

SELLING THE KEROSAFE

300 Candle Power Lamp and Lantern

"I sell from 5 to 12 Kerosafes every day. My profits amount to about \$300 a month, and at the rate my profits at the end of my first year will amount to three or four thousand dollars. Those starting to sell your Kerosafe line, I have secured the 5 passenger automobile and am now making my way to prosperity. R. E. Hart, Ind.

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No experience necessary. No capital required. Sample Free. Credit given. Write today for Home territory. You can do as well as Hart and our thousands of other successful agents. Anybody can sell the Kerosafe. It sells itself. Just light it, compare it with a lamp, gas, even electricity and the sale is made. Gives 300 Candle Power light from Coal-Oil (Kerosene). Costs only one-tenth cent an hour. Can't explode. Safe, economical.

We furnish Auto FREE to travel in and introduce our Kerosafe Lamp. Write for our free automobile offer. This is no contest where only one person wins. Anybody can get this free automobile.

FREE TRIAL OFFER
Write quick for sample lamp on our Free Trial Offer. Someone is going to make big money. Why not you?
Kerosafe Lamp Co. 7970 East St., Dayton, Ohio

better plan to leave the cow for a time and return to her half an hour later.

Farm Inventory Shows Profit or Loss

Look over the advertisements in your local paper during January. Most of the merchants are advertising sales, aren't they? Those sales mean that the merchants are preparing for another year of business. They have either taken an inventory or are about to take one. Merchants find inventories indispensable in intelligent conduct of their business.

The inventory is just as indispensable to the intelligent conduct of a farm business as it is to the merchant. In a general way the farmer can tell whether or not he has made money during the year, but unless some form of inventory is made or some form of records kept, no farmer can tell the exact status of his business. The inventory, together with a simple system of book-keeping will put the farm on a business basis. In this way the farmer can tell whether or not he has made money on his various transactions. By keeping records he will be able to discover the leaks in his business and remedy them. Under the usual system on the average farm there is absolutely no way of determining the earnings of the different activities.

Advertising Helps to Keep Prices Down

Two prominent business men were talking things over not long ago. One of them asked the other, "What is the most common delusion in the business world today?" Instantly came the reply, "The idea that advertising adds to the price of goods."

Every now and then some manufacturer has the hardihood to say that he can sell his goods cheaper because he doesn't advertise. Every one who knows the A B C of business knows that this claim is impossible on its face. Yet it sounds plausible and such talk deceives millions of people.

Forget all these sophistries and listen now to the plain common-sense of the matter.

In the production and marketing of goods there are two inevitable costs. One is the manufacturing cost; the other is the selling cost. And no way has ever yet been found by which either of these costs can be eliminated. Mark that.

Whether you buy farm products at a grocery store, or mill products at a dry goods store, or laboratory products at a drug store—whatever you buy at any store, be sure of one thing: The price includes the selling cost. It must, else the manufacturer, the wholesaler, the retailer and the salesman could not live.

And just as surely as there are always two items of cost, the manufacturing and the selling, just so surely are there only two ways in which the price of goods can ever be reduced.

One is by economies in manufacturing cost. The other is by economies in selling cost.

Of course, it isn't easy to cut manufacturing cost without cutting the quality. But in modern times a way has been found to cut selling cost—and its name is Advertising.

Advertising is like a straight line: the shortest distance between two points—the producer and the consumer. It cuts out the grades, curves and the angles. It makes a drop of ink do the work of a salesman. Bear in mind that goods can never be sold unless there is a demand and advertising creates this demand in the simplest, most direct and least expensive way. No other sales method can equal it in magnitude of return for a minimum of cost.

And the big returns from advertising also cut down the manufacturing cost—that's another saving. Increased volume of production always means a decrease in the unit cost of production through better and more efficient manufacturing methods.

The Association of National Advertisers has recently been gathering some remarkable facts and figures on this subject. They show how one after another of the big advertisers of the country have been able to reduce the price of their product or else to improve the quality at no increase in price. It is a significant fact that nationally advertised goods are the only product which, as a class, have not tended to rise in price during the past few years.

Countless causes are working today to force prices up. We all know this by sad experience. Against all these forces one

force only is working to keep prices down—and its name is Advertising.

Matches in the Making

I do not allude to the matches that are claimed to be made in heaven, but to the common affairs with which men light their pipes and the fires in their stoves, their candles or their lamps.

When I was a teller in a city bank, a sickly looking little man used to come in often to deposit the receipts from a match factory. His income was small. His profits were even smaller. He smelled so strongly of sulphur we were glad to see him depart, although otherwise he was an interesting man. His work was largely hand work.

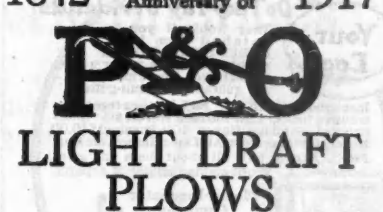
Recently I saw the interior of a modern match factory. The building and the machinery inclosed must have cost at least a million dollars. Little work was done by hand. Everything seemed to be moved and operated by machinery. A section of log was placed in a lathe and cut into a single sheet just the thickness of a match. Then these thin sheets of wood were cut into proper lengths for matches and the chemicals quickly applied and quickly dried, after which the strips of veneer were placed in a machine that clipped off just enough of the wood to make a match. Machinery was used in almost every step of the process from the block of wood to the veneer, to the application of chemicals, to the slitting of the wood into narrow strips, to the proper boxing and the packing of boxes in cartons, and to the packing of the cartons in larger receptacles ready for shipment by freight or express to distant parts of the country.

Strange to relate, the business of match-making has been taken up by large capitalists, those who have millions of dollars at their command, and not often by those who commenced to make matches by a slower process.

When we see the marvelous adaptation of machinery to the construction of matches in all its detail, we are led to ask why so little is made of machinery by farmers, fruit growers, nurserymen and many others. [It is true that machinery in the way of gasoline trucks and motors is being slowly introduced on our farms. We are conscious of the fact that the reaper and self-binder have brought about marvelous changes and yet there are altogether too few forms of machinery in the enterprises mentioned. In many parts of the world the wooden plow is used the same as in the days of Pharaoh and the exodus of the Israelites.—Charles A. Green.

I enjoy your journal more and more as the years go by, having read it constantly for the past fifteen years. It is not only the best fruit journal published, but it is of great help in farm matters and poultry work.—Jesse E. Morgan, Illinois.

1842 The Seventy-Fifth Anniversary of 1917



Built for the Field Test.

Three-Quarters of a Century of "Knowing How" Hammered Into Every One of Them.

The product of the Parlin & Orendorff Co. has always been noted for simplicity of construction, great strength and ease of operation. It was upon such a basis that the founders of this business made their implements, established their reputation, and built their factory. It is upon the same foundation that the business has been carried on to this day, and in 1917 we celebrate our Diamond Jubilee; 75 years of practical experience gained through constantly striving to provide for the exacting requirements of three generations of American farmers.

For an even three-quarters of a century we have met the demand, and today we operate the largest and oldest permanently established plow factory in the whole world. "It's the way we build them."



Light Draft Plows, Harrows, Planters and Cultivators are made in all types and sizes, to meet the conditions in all sections, and are Backed by an Unqualified Guarantee.

We also make the most complete line of Traction Engine Plows produced, and we have a special catalog devoted to these famous plows.

The P & O Little Genius Engine Gang Plow

was the most popular plow shown at all points on the 1916 National Tractor Demonstration.

We will send P & O Catalogs to any address. While P & O implements are sold only through established implement dealers, we welcome correspondence from farmers in all sections.

Ask Your Dealer or Write Us.

Parlin & Orendorff Company

Canton, Illinois

Kansas City Omaha Sioux Falls Dallas Portland (Ore.) Spokane Denver Minneapolis St. Louis Oklahoma City

KITSELMAN FENCE

Get It From the Factory Direct
HORSE-HIGH, BULL-STRONG, PIG-TIGHT.
Made of Open Heart wire heavily galvanized—a strong durable, long-lasting, rust-resisting fence. Sold direct to the Farmer at wire mill prices. Here's a few of our big values:
28-inch Hog Fence—18½¢ a rod
47-inch Farm Fence—24½¢ a rod
48-inch Fencing—26½¢ a rod
Special Prices on Galv. Barbed Wire and Metal Fence Posts. Our Catalog shows 100 styles and heights of Farm, Poultry and Lawn Fence at money-saving prices. Write to-day. It's free.
KITSELMAN BROS. Box 206 Muncie, Ind.

Royal Fence

Made of big, strong, stiff steel wire, with continuous stay wires from top to bottom wrapped around each horizontal wire and securely held by

the Royal loop, giving great strength and resiliency.

American Steel Fence Posts last a lifetime. Hold fence secure against all conditions.

Sent Free—Our Book, "How to Build a Fence."

Dealers Everywhere

AMERICAN STEEL & WIRE COMPANY
Chicago New York Pittsburgh Cleveland Denver
Awarded Grand Prize at Panama Pacific International Exposition—The Supreme Award of Honor

There's Big Money in Poultry Keeping

That book—*"How to Succeed with Poultry"* is the guide to success, as thousands of poultry raisers will testify. It starts you right. It tells about the Cyphers Incubators, Brooders, Hovers, Poultry Foods and supplies—as well as giving the rules of the game. You must have the right tools to work with. Start with the "Book of Facts"—it's worth its weight in gold.

Cyphers Incubator Co., Dept. 52, Buffalo, N. Y.

3 Styles 8 Sizes Popular Prices

FREE!

Incubator Bargain Book

Send no money! Get this free book just off the press. Shows you how to make bigger poultry profits at less cost. It will save you from \$5.00 to \$20.00 on your incubator according to size. Tells you all the things you want to know in buying an incubator, and shows you the way to bigger profits from your poultry. It is a Bargain Book that every poultry raiser will profit by having.

This new book proves how Maynard Incubators hatch every hatchable egg at small cost, and with least attention. It shows you all the latest improvements in incubators—many features not found on other machines. All incubators backed by an ironclad guarantee to be strong, reliable, and practical. All these and other poultry supplies at prices which will surprise you. Send a postal today for this big money saving book. Don't spend a dollar for any poultry supplies until you get this free book.

\$5.37 buys 60 egg incubator

A time tried and tested machine. Best hot air heating system, double walls insulated with wool felt, steel legs for greater strength, dependable regulator keeps even temperature. A practical, dependable machine that can't go wrong for only \$5.37. 160 egg size at \$6.25.

Send a postal today for this free book, and let it help you save money.

Charles William Store, New York
6811 Stores Bldg., N. Y.

EGGS 12, \$1.00; 20, \$2.00. Thoroughbred, Rocks, Wyandottes, Reds, Hamburgs, Brahmas, Orpingtons, Boudins, Campines, 19 varieties. 30 years experience. Catalogue. S. L. MOHR, Coopersburg, Pa.

"All About Eggs"

New Book about making better hatches and stronger chicks; making hens lay more and regularly; preserving eggs absolutely fresh for higher price market; packing, shipping, marketing, etc. Free on request. See Complete Poultry Library (5 books) postpaid for 5 cents in stamps. Write today.

GEO. H. LEE CO., Box 423 Omaha, Neb.

PIGEONS PAY
Better Than Chickens
Young pigeons require little food and space. They are easy to keep and breed. They are profitable. Very little space and money needed to start. See book explaining all.
KALAMAZOO STOVE CO., Dept. 15, Allen, Mich.

PIFFLE'S 66 VARIETIES
Farm-raised Land and Water-Fowl. Eggs in season. Incubators, Illinois Catalog and "Grower's Guide," 20. An honest deal. Write today. HENRY PIFLE, Farmer-Poultryman, Box 649 Freeport, Ill.

Save Money

Quick Shipment

direct from manufacturers. Highest quality warm air furnace at wholesale price. Write for catalog filled with helpful hints on home heating and telling how you can save money on this powerful heating plant. One register—easy to install. We pay freight. Cash on delivery. Write for Catalog No. 938. KALAMAZOO STOVE CO. Kalamazoo, Mich.

A Kalamazoo Direct to You

POULTRY NOTES

There is money in raising broilers and roasters.

Be sure that the incubator is running steadily at the right temperature before putting in the eggs.

Look out for the mite. Spray the perches, nests and interior of the poultry-house with kerosene.

If a hen has to sit on a cold roost all night, with all the warmth she gets drawn from within, she will not be likely to lay the next day.

The first eggs laid by pullets should not be set as they are small and will produce weak, undersized chicks. Let the eggs come to full size before setting.

Hulled oats will be relished by the chicks, especially if they are only a few days old. This feed should be given dry. Sloppy foods cause bowel derangements.

Don't think of putting a tin roof on your poultry house. It makes the house too hot in summer. Tared paper will last about three years if it is painted or tared each season.

In growing broilers for market, push them very rapidly by giving them ground



feed, but when this stock is intended for breeding purposes, it is better that the mash be given dry.

Were you intending to buy an incubator or brooder this season? Make up your mind what you want and order now. No time like the present.

Early Hatching Pays

The poultry keeper who expects to get eggs next winter must have his chickens hatch early this spring. It requires from five to seven months for a three to five pound hen to mature so that she will lay. The hen of the heavier breeds such as Rocks, Reds, Wyandottes, etc., weighing from five to eight pounds each require from one to three months longer. This is based on the assumption that the chicks are kept growing well during the summer months. The Missouri farmer loses large profits from winter eggs because he does not give his young stock sufficient time to mature before winter sets in. This prevents his flock being productive during the winter months.

Unless a pullet is laying in December it is practically impossible for her to lay much until February according to experiments at the Missouri Agricultural Experiment Station. This shows the necessity of HATCHING EARLY. If the hatch is completed by May 15th there remains but seven months in which to mature the pullets. If winter eggs are expected, the hatch should be completed before that time. Egg records show that early laying pullets—November and December—are the ones that make the high egg yields and also lay eggs at the time of the year when the price is the highest.

Early hatching is important, not only from the standpoint of next year's winter egg yield but also because the early hatched chick comes from stronger eggs, and the chicks get a start before the extreme hot weather arrives. For these two reasons the poultry keeper should exert every energy to get off the hatch as soon as possible.

Fruit Growers' Supplies

Sprayers

This is one of the many different styles that we handle and is fully guaranteed.

Price, No. 18, as illustrated . . . \$11.00



Spray Solutions

We have a solution for the destruction of all kinds of orchard pests—Scalecide, the best dormant spray.

Price . . . \$1.00 per gal., \$3.75 per 5 gals.

Pruning Tools

of all kinds and sizes.

Price, Levin tree and grape pruner, No. 23, \$1.00



Garden Tools

We are handling the complete line of Planet, Jr., Garden and Farm Tools.

Price, No. 4, complete, can be used as a seeder or cultivator . . . \$12.75

Grafting Tool

Made in one piece of forged steel. Price, postpaid . . . \$.85

Grafting Wax, price per lb., postpaid . . . \$.50



Poultry Supplies

Such as Leg Bands, Bone Mills, Hand Grist Mills

Send for New 8-Page Circular of fruit growers supplies with instructions about spraying

Address GREEN'S NURSERY CO., Service Dept., Rochester, N. Y.

When you write advertisers Please mention Green's Fruit Grower.

BIG SEED OFFER

34 VARIETIES VEGETABLE SEED
60 VARIETIES FLOWER SEED
AND OUR BOOK, ALL FOR
ONLY 10 CENTS

This is a grand offer, made to introduce our fresh, reliable, tested seeds. Buy from headquarters and save dealers profits.

For only 10 cents you will receive 34 varieties of vegetable seed, such as NEW STONE TOMATO, PRIZETAKER ONION, MAY KING LETTUCE, EARLY BIRD RADISH, etc., etc. We haven't the space to name all the varieties here, but you will get the above four named sorts and 30 other varieties—all standard and reliable sorts, fresh seed, true, tried and tested, and guaranteed to give satisfaction.

We are also big growers of flower seeds and are willing to pay you for the names of people who like flowers. When sending your order for the vegetable seeds, send us the names and addresses of 5 persons who grow flowers and we will send you, for your trouble, our big collection of 60 varieties of choice flower seeds.

In addition to all the above we will also send you a FREE copy of our book, which tells all about making big money.

Send today. This offer may not appear again. It is the biggest bargain ever offered. On receipt of your order we will immediately send you everything mentioned in this advertisement—the 34 varieties of tested vegetable seeds, 60 varieties choice flower seeds, and the book, all for only 10c, by parcel post, prepaid.

BURGESS SEED & PLANT CO.
Headquarters for Guaranteed Seeds,
235 Floral St., Galesburg, Michigan



IRON AGE

Farm, Garden and Orchard Tools

Answer the farmer's big question: How can I grow crops with least expense? How can I produce fancy fruit with the least time, labor and cost? The

IRON AGE Barrel Sprayer

solves the spraying problem for the small orchard, farm, public park, poultry yard and houses, etc. Easily pushed wherever wanted and operated by man or boy. The only pump built of its type, easily taken apart and made with renewable valves. We make a full line of orchard and field sprayers. Write today for booklet—free.

Bateman Mfg. Co., Box 16F, Greaslock, N.J.

Allcock

PLASTERS

The World's Greatest External Remedy.

Rheumatism, Lamé Back, —Any Local Pain,

Inset on Having ALLCOCK'S

A NEW FENCE BOOK FREE

The Brown Fence & Wire Co., of Cleveland, Ohio, is issuing free, a beautiful new fence catalog which every farmer should have for reference. This book contains 80 pages, illustrates and describes over 150 styles and sizes of fencing for every conceivable purpose, shows all kinds of lawn fences and gates, field gates, barb wire and the new triple angle steel fence posts. The book quotes prices from 13c per rod up for Brown Double Galvanized Fence, shipped freight all prepaid, direct from factory. If you need or will need fencing, gates or posts send for this fine book today. Address Dept. 29, above address, and the book will come by return mail, free to you.

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Save money. Get our special low prices and free samples of our pure, Iowa Grown, New Crop Re-cleaned Tested Clover and Timothy Seed. Also Alfalfa, Alsike, Sweet Clover. All kinds grass seed. 100-page catalog free, quoting all field seeds. Save money by writing at once. A. A. SERRY SEED CO. Box 148 CLARINDA, IOWA

FREE 10 DAY Orchard Test

STAHL SPRAYERS

We will ship you any Barrel Sprayer Outfit in our catalog for a thorough Two-Days' FREE Test.

Get Our New Catalog —Special Free Trial Offer

Direct from factory to farm Selling plan saves you fully 40%. If not greatest bargain you ever saw, return—Test costs nothing. Write Stahl Sprayer Co., Box 44 Quincy, Ill.

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WHOLESALE PRICES TO PLANTERS.

Small or Large Lots by Express, Freight or Parcel Post. Pear, Plum, Cherry, Small Fruits, Strawberries, Vines, etc. GENUINE HALE BUDDED from bearing J. H. HALE TREES. Genuine Delicious Apples. Catalog FREE. TENN. NURSERY CO., Box 36, Cleveland, Tenn.

GROUND ALMONDS

Grow them in your garden. A delicious nut, with a flavor resembling the Coconut or the Almond. Most snow white, shell very thin. Very prolific, a single nut yielding from 200 to 300 nuts in a hill and will do well in any kind of soil. Plant in the spring the same as potatoes and a big crop can be expected about potato harvest time. Grow some for the children. Everybody likes them. Send 10 cents in silver or one cent stamps and we will send you a large pack of these nuts, so you can grow some in your own garden.

BURGESS SEED AND PLANT COMPANY,
Dept. 223, Galesburg, Mich.

850,000 GRAPE-VINES

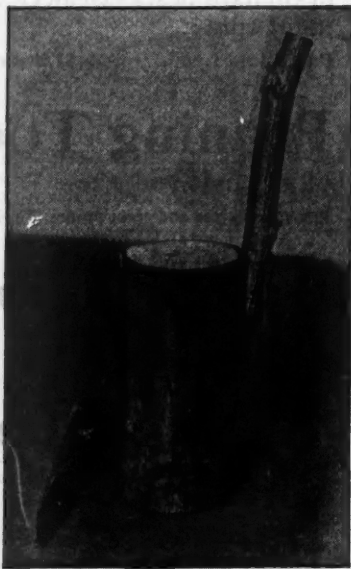
69 varieties. Also Small Fruits, Trees, etc. Best rooted stock. Genuine, cheap. 2 sample vines mailed for 40c. Describe in catalog. Free. H. LEWIS BOWEN, Box D Fremont, N.Y.

How to Graft Walnuts

By E. N. Craig

I saw in Green's Fruit Grower that someone asked the question, "How to graft Walnuts so they would grow?" I have no trouble to get them to grow, and have grafted a good many Black Walnut trees to English Walnuts during the last three years, very often getting 100% to grow.

Four years ago I knew nothing about grafting walnuts. One of my neighbors wanted me to graft some for him. He showed me how to cut a V shaped notch extending down the side of the branch to be grafted. I did the work the best I could, and almost all of them grew. But it was a slow job, and hard to get the Cambium



Walnut Grafting. Note the Scion which Has Been Removed to Show How the Long Sloping Cut is Made

layer "inner barks" together as the bark on the scion was thin and the bark on the black walnut branch was $\frac{1}{4}$ -inch thick.

I put in about a dozen grafts that year the way I have been grafting the walnut every year since and every one grew.

You can cut your grafting wood any time during the winter or while the buds are dormant. Use one year old wood. Place your grafting wood in moist sand on the ground on the North side of some building, burying the butts up to about half of their length, so they will keep until your walnut trees to be grafted have started to leave out.

The grafting is done as soon as the bark will peel and not before. The cambium layers "inner-barks" are what you want together, and the easiest way to get them together is the best and surest way to get them to grow.

This is my way of setting the grafts. I give my scion a long sloping cut all on one side. Then I place the flat side of the scion against the branch I have already sawed off and cut straight down on each side of the scion just through the bark, (do not cut across but leave that piece of bark for it makes the wrapping twine bind the scion tighter.) Be sure and use good plump buds on your scions. Next raise the bark enough to start the end of the scion and push it down, as far as the sloping cut on the scion and tie with cotton wrapping twine like the stores use to tie up their packages. Be sure and tie tight, then wax the end of the scion and of the branch and down the side as far as the scion goes. Then take a piece of paper twice as long as your scion stands above the branch it is in and long enough to go around the branch and tie it on so the paper extends to the top of the scion to protect it from the sun. On small branches I use one graft, but on large branches I use two grafts set on opposite sides.

Man Weakest of Animals

The elephant, the lion and the horse may be taken as the three creatures capable of moving the greatest weights. But, in relation to their bulk, the power of these animals is infinitely less than that displayed by many of the lower forms of life. Insects are the true athletes in animated nature. If an ant could be developed on the scale of an

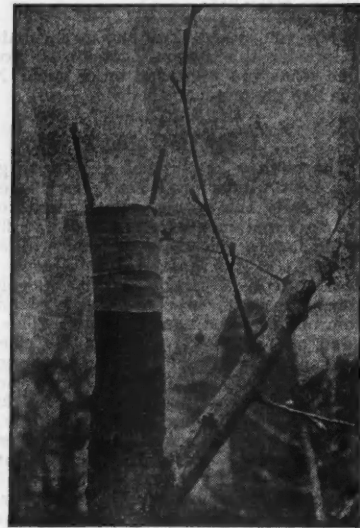
elephant, with muscular power in proportion to its new bulk, it would be able to draw a heavily-laden luggage train without an apparent effort. A Belgian scientist, by means of a delicate apparatus, has found that a bee, weight for weight, is thirty times as strong as a horse. Even a crab has been found to be able to lift 492 times its own weight. Man, in proportion to his size, is probably the weakest animal on the face of the earth.

The old saying that "You cannot eat your cake and have it too," might be paraphrased and applied to farming by saying, "The soil can't give up its plant food and always have plenty left," says "Farmer's Guide." Many farmers operate their farms as though they thought the soil would never wear out, that it would go on producing corn, wheat and hay indefinitely without any assistance from them except to plow, cultivate and harvest. Others have found out that there is a limit beyond which they cannot go and that they must revise their methods if their land is to continue to support them. The soil has been well likened to a bank account. If you make no new deposits and continue to check out you will in time overdraw. Fertility maintenance is no idle suggestion, it is a real and pressing problem.

Praise may puff up a shallow nature, but it always brings something of humiliation to a deep one. Love and commendation are sweet, but just because they are worth so much the true and earnest spirit is touched with a sense of its own unworthiness as it receives them, a longing to be better fitted for the trust reposed in it. It is not the flesh of scorn but the light of love that reveals us to ourselves and stirs us to our best effort.

It is not the unusual, the whirls and eddies of a river, that tells its course, but the uniform flow of its current. So it is with our lives. There are periods of exaltation, there are counter-currents of temptation, of defeat and sin, but it is the steady flow of the common days that reveals our course to others, that shows what we are and whither our lives are tending.

It is not easy to run away from failure, and the best place to make good is often the very place where one has failed. The surest way to blot out a mistake is by covering it with a success.—F. H. Sweet.



Grafting the Cherry

The cherry tree is one of the most difficult fruit trees to graft successfully. It is far more difficult to succeed with grafts on the cherry than it is with grafts on the apple or pear. Buds of the cherry begin to expand very early in the season, therefore the scions must be cut early before they begin to swell, which is a little too early to insert the grafts, therefore the scions should be kept in a cool cellar carefully protected from drying until the proper time comes for inserting the grafts. Grafting wax is first pressed in closely around the scions and around the top of the stub and then over the wounds along the side of the branch. Then strips of cloth should be pressed on as shown in the photograph.

What Constitutes a Corn?

Some authorities claim that a corn on the toe or other part of the foot is a hardened surface with a sharp point near the center, which sharp point pierces the flesh and causes pain and irritation. If this is a correct definition of the corn there are few people who have genuine corns, for in most instances the pain is caused by a callous, which is thickening of the skin without any sharp point beneath. The usual remedy is to pare off this callous spot, which is a difficult and somewhat dangerous operation. After paring off this callous spot, if a little patch of surgeon's adhesive plaster is applied it will soften the flesh beneath and prevent further friction. If this surgeon's plaster is applied before the callous spot is removed it will soften it so that it can be pared off more easily. Chiropodists invariably sterilize the so-called corn by the application of alcohol or other sterilizers before the operation of cutting it, so if they cut into the flesh blood poisoning will not ensue.—C. A. Green.

Spraying with kerosene emulsion is one of the best remedies for the rose leaf hopper. Make the first application as the pest first appears and repeat as often as is necessary.

ROSES & NEW CASTLE

Is the name of our famous book on rose culture. Gives expert advice. Describes our famous hardy roses—the best for home planting in America—and tells how to grow them. The most instructive book of its kind published. It's FREE. Tells how we properly express charges on roses anywhere in the U. S. HEMER ROS. CO., Box 360 New Castle, Ind.

The Chinese Woolflower

Introduced by us three years ago is now acknowledged to be the greatest new garden annual. It is a success everywhere, plants growing 2 to 3 feet, a pyramid of color, its many branches bearing great balls of wool-like substance of most intense crimson scarlet. Flowers develop in June and none fade before frost, ever brilliant and showy beyond belief. Seed per pkt. 10 cts. 8 for \$2 cts.

New Hardened Fertilizer. For immense size, wonderful colors and vigor they are marvelous. Seed 10 cts. per pkt. 8 for \$2 cts.

See Catalog for colored plates, culture, etc.

Our Big Catalog of Flower and Veg. Seeds, Bulbs, Plants and rare new fruits free. We are the largest growers in the world of Gladioli, Cannas, Dahlias, Lilies, Iris, etc.

JOHN LEWIS CHILDS, Inc., Floral Park, N. Y.

Fruit Growers! Gardeners!

A boy with this machine can do more and better work than 10 men with Hoe!

The BARKER Weeder, Mulcher and Cultivator

3 tools in 1, cuts the weeds underground and forms the hardest crust into a moisture-retaining mulch—Intensive cultivation. Works right up to the plants without injury. Cuts runners. "Best Weed Killer Ever Used." Best leaf guards for larger plants and shovels for deeper cultivation. Self-adjusting. Inexpensive. Write for free catalog and Factory-to-User offer.

BARKER MFG. CO., Dept. 15, David City, Neb.

ELECTRIC FARM HOME LIGHT & POWER Plant

Home Comforts and Power Service. Fan & Power Motors, Storage Batteries, Engines, Belts, Dynamos. Catalog 3 cts. Ohio Electric Works, Cleveland, O.

Bush Car Delivered Free

Ride in a Bush Car. Pay for it out of your commission on sales, my agents are making money. Shipments Free Post—\$4.75 N.Y. 100% sales. Cash guaranteed or money back.

Write at once for my 48-page color plan. Address: J. H. Bush, Dept. 2-10.

114-Je Wheelbase. Deluxe Ignition—Elect. Stg. & Ltg.

BUSH MOTOR COMPANY, Bush Temple, Chicago, Illinois

PARK! 800,000 FLOWER FOLKS read Park's

Floral Magazine as a charming illustration monthly. Do you? If not send 15 cents for a year's trial and 10 Splendid Gladioli Bulbs, mixed colors, or 8c for 8 years and 25 bulbs. Park's New Floral Guide Free. **GEO. W. PARK, LaPark, Pa.**

Every Night For Constipation, Headache, Indigestion, etc.

BRANDRETH PILLS

Safe and Sure

Green's Fruit Grower

Saving the Orchard

By F. H. SWEET

The orchard owner walked swiftly along, studying the faces and figures through shrewd, half-shut eyes, and making an almost imperceptible motion toward one here and one there and another yonder. He was weeding out his help, and doing it impartially and imperiously, as was his wont. The boss walked by his side, noting.

After the owner jumped into his automobile and chugged away, the boss went among the hands delivering the sentences. Presently he approached a slight-looking girl who was pasting labels on cans. She had been watching through the corner of her eyes, and whitened a little as he stopped at her side.

"I go, too," she said, anticipating him. "I saw it in the way old Half-Cent squinted his eyes at me. When do I go?"

"You may work out the day."

"And not come back. All right. But you know, Mr. Halstead, that I'm the best worker you've got in this department. I'm small, but pa says it's all muscles and knots. I've never been sick a day in my life, and never get tired out, and never shirk when your back is turned like some do. And—and I like the work I do. It ain't just the number of cents it brings in."

"I know, I know," a little wearily. "But you understand how 'tis. I tried to say something for your table mate, Rosa, and you noticed how Mr. Barkes whirled and looked at me. If 'twasn't for so many depending on me I'd like to be going myself; but—" He drew himself together sharply, glancing about to see if any of the others had overheard. "You—of course you'll never hint to anybody that I'm dissatisfied, Clara. I'm not. I can't afford to be."

"You've known me too long to say that, Mr. Halstead," said Clara, gently. "I guess we're all in the same boat. If things had been all right, Tom and I'd have been married long ago."

The boss nodded sympathetically.

"How is poor Tom?" he asked.

"Mending slowly, but still on crutches. It's been over six months now, and the first two, you know, we didn't think he'd live. That's more of Half-Cent's work. Tom was his best picker, and in the

hurry he kept Tom rushing days and half the nights, and then sent him up into the top of that big seedling Baldwin to get the apples the other pickers had left. And, do you know," two red spots burning in her cheeks, "that from the time Tom fell and was carried home, old Half-Cent has never sent to inquire after him once, and he stopped Tom's pay the very day he was hurt."

"It's been a pretty heavy expense to Tom," sympathized the boss.

"He'd saved nearly enough to build a little house on the lot he bought, and that's gone, and he still owes the doctor some. I've been saving up to buy furniture and dishes, and this is my last day. Yes, I guess we're all in the same boat. You've got six to look out for, and Rosa's sold the cow and calf she earned. Oh-ho! Say, think there's any danger of frost tonight?"

"Not the least. The thermometer's been rising for the last two hours. In fact, believe the orchard boys are planning to dance down the valley tonight."

"Better not let the owner hear of it," said Clara, shaking her head; "t'would cost every last one of them his job. It's foolish to leave the orchard during the period of danger to the blossoms."

"No danger tonight," declared the boss;

"not the least."

And so thought Clara, as she went to her home through the immense blossom-laden apple orchard after her work was done. The air was almost mild, and the night was clear and calm, with myriads of stars in the sky, which showed as she passed between the trees. Down each alternate row were round black objects, that looked like beasts of prey in the semi-darkness of the undergrowth. But they were not. They were guards, more than a thousand stoves or smudge pots, filled with crude petroleum, and covering 200 acres of blossoming promised fruit. Near the far side of the orchard, and only a few rods from the little house where Clara lived with her father, was the guardhouse. Here twelve men slept, fully dressed, in bunks, during the ten days or so of danger to the blossoming trees. When the nights were cloudless and still the cold might drop, drop, until it neared the danger point. Then it rang an alarm in the guardhouse, awakening the men. They rushed forth with lighted torches and raced along the rows of open stoves, touching each, until the great orchard was

She sped toward the guardhouse, where the torches were kept.

The owner had been out that evening, and he returned an hour after midnight, complacent with a good dinner and with much flattery for his success as an apple kirg. At the gate he paused, with coat buttoned to his chin and hands in pockets. The thermometer must be in a fickle mood, for it had been rising when he went out, and now it was falling rapidly. He glanced toward the orchard. There were long lines of lights, and others were flaring up every few seconds. All was well, but he did not open the gate. There was much at stake, and he would walk through the orchard himself.

Clara was just rising from the last lighted stove when he appeared in front of her, his face hard and stern.

"Where are the men?" he demanded.

"I—it does not matter," she answered, shortly. "No harm's been done. I've lighted all the stoves, and the frost isn't severe enough yet to do any real damage."

"You—lighted all of them," incredulously, "by yourself? How long did it take?"

"About an hour. But I'm strong, and can get round faster than persons who are heavier built. Now I'll go and see that none of the fires burn out."

spised their owner.

The next day the boss sought Clara at her home.

"Here's a letter Mr. Barkes told me to bring you," he said. "He's making some changes. I'm to be the bookkeeper now, and shall like that job better. It'll be quieter."

Clara opened her letter. It read:

"The best way to acknowledge a mistake is to remedy it. Tomorrow you will take Mr. Halstead's place as overseer of your department, and I want you to engage and dismiss help yourself, in accordance with their ability and interest in the work. Your salary will be what Mr. Halstead received, which, I believe, is about three times your own. If Rosa is competent, take her back. Tom will be sent an order for back pay through his illness, and when able to work shall have charge of the orchard gang. He is capable, I believe."

"And, finally, do not feel under any obligation to me. The thousands of dollars you saved would make that seem wholly trivial.—T. H. Barkes."

Dont's For New Hunters

The conservation of human life is worth while. These dont's are intended for the new crop of youngsters who will go into the woods and fields for the first time. It is also intended for those who are careless.

Don't point firearms at any human being or domestic animal. Keep the muzzle toward the ground or in the air.

Don't take a loaded firearm into a house, vehicle or boat.

Don't set firearms down without unloading.

Don't jump or climb a fence or stream without unloading.

Don't shoot without knowing what you are shooting at.

Your hunter's license does not give you the right to hunt on posted land, reservations, parks or within the city limits. Land owners have a lawful and moral right to say who may hunt on their property. Respect rights and they will have more regard for you and your sport and recreation.

New Trapping Method.

Some one claims to have a new method of smoking out fur bearing animals. When their burrows are discovered and the animals are supposed to be at home, a dense smoke is made at the entrance and forced down into the hole to the point where the animals are, which soon forces the unfortunate creatures to come out into the open. I have had some experience in smoking out the skunk which for several years made its nest and home under the porch of my dwelling house. Though I used sulphur for the smudge it took a long time to drive out the skunk, and yet he was far more easily approached under the porch with the smudge than would an animal be at the end of a long burrow.—C. A. Green.

Odd and Interesting Facts

Dominica has a boiling lake of unknown depth

Native girls of New Britain are kept in cages until they marry.

Nine cubic inches of water frozen will measure ten cubic inches.

A bird that cannot fly is the black wood hen of New Zealand.

Eleven grains of radium were produced in the United States last year.

The world ski jumping record is held by an American, who covered a distance of just under 192 feet.



"There Were Long Lines of Lights, and Others Were Flaring Up Every Few Seconds"

like a mighty army bivouacking with a thousand camp fires. And just as soon as the petroleum flared up, it raised the temperature five or six degrees in half an hour and enveloped the orchard in a dense black smoke, like a cloud. It was a battle of defense—to save a possible \$100,000 worth of fruit. But tonight the temperature was falling, and there was to be no frost; so the twelve trusted men of the home guard were stealing away through the orchard to a dance.

Clara could not sleep tonight—and, anyway, sleep did not matter, for she was not to work on the morrow. In the morning expenses would commence eating into the furniture and dishes hoarded.

Toward midnight she opened the door and went out. She loved the great orchard, and just now it was very beautiful, with the bough-laden blossoms sending their fragrance into the breezeless night. She had not gone far when the insidious stillness of the cold began to chill her, and she looked about, expecting to see the sudden flaring up of the stoves. Then she remembered. The guards had deserted. And it was growing colder.

Clara had no thought for the owner, but she loved the great orchard. It hurt her to think of all those blossoms turning black.

"Wait a minute. Wherever the men are, none of them can come back to work. And you—oh, you are the girl I had dismissed yesterday. I suppose you did this to get your job back, and maybe in hope of a reward. Well, I never change my mind in such matters, but you shall have the pay of the twelve men who shirked."

He was reaching into his pocket when she whirled on him, drawn to her full height and her eyes blazing. She had been regarded as a quiet girl, of few words; but now the scathing denunciation poured from her lips in a scornful, contemptuous stream. She told him about Rosa, about Tom, about the many arbitrary and foolish things he had done; that all his help detested him, though most of them loved the orchard and their work. And he listened, at first trying to speak, then silently angry, and at last with a curious expression coming to his face.

"And now, you poor silly Half-Cent," the angry girl finally flashed. "I didn't do this with a thought of reward, or of going back to work, but because I—I love the orchard, and don't want a single one of the dear blossoms to get hurt."

Whirling the torch above her head to revive the dying flame, she darted back among the trees, not ready even yet to desert her friends, however much she de-

fortunate creatures to come out into the open. I have had some experience in smoking out the skunk which for several years made its nest and home under the porch of my dwelling house. Though I used sulphur for the smudge it took a long time to drive out the skunk, and yet he was far more easily approached under the porch with the smudge than would an animal be at the end of a long burrow.—C. A. Green.

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